

# FACTS and FIGURES of the AUTOMOBILE INDUSTRY

Statistics of Production, Registration, Export  
and Use of Motor Cars and Motor Trucks

1921

*"The motor car has become an indispensable  
instrument in our political, social and indus-  
trial life."—President Harding.*

NATIONAL AUTOMOBILE CHAMBER OF COMMERCE, Inc.  
Marlin-Rockwell Building  
366 Madison Avenue at 46th Street, New York City

Ref -

## CONTENTS

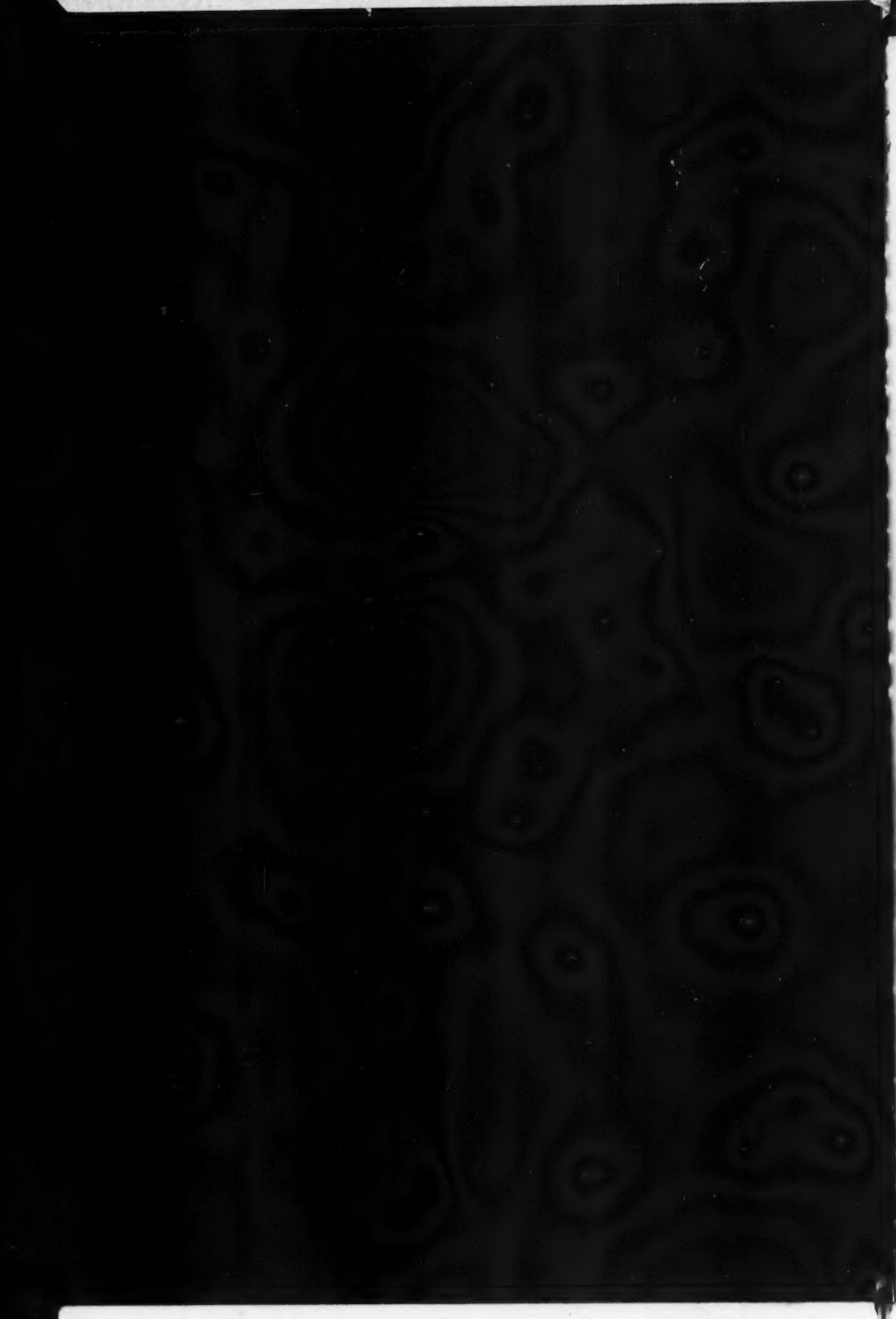
Self

	Page
Introduction.....	1
General statistics.....	2, 3, 4, 5
Production.....	6-8
President Harding's comment on the motor car.....	10
Fuel and raw materials.....	12, 13
Occupational use of cars and trucks.....	14-32
Registration.....	34-45
Roads.....	46
Taxes.....	48-50
Exports.....	51-64
Imports.....	64
State laws restricting size and weight of motor vehicles....	64-69
State fees for motor vehicle registrations and licenses.....	70-79
Definition of car body styles.....	80
Automotive associations.....	82
Automotive schools.....	84
Organization of N. A. C. C.....	86
Membership of N. A. C. C.....	90

---

*Detailed index is given on pages 94-95-96.*







A/ ✓  
RG29.101 A92  
1921 c.1

## Introduction

*Facts and Figures* for 1921 aims to present in statistical form the progress of the automobile industry.

Detailed information is given on the major phases of the business during 1920, which was a record year both in registration and production.

Surveys showing the utility of the motor vehicle in various lines of business and professional activity are summarized in the following pages. These studies fully establish the position of the automobile as a main unit of transportation and as an economic necessity.

Special attention is given to the use of cars and trucks on farms, where one-third of all the automobiles are registered.

Figures for this volume have been compiled from Government sources, the trade press, research bureaus, and questionnaires to car and truck manufacturers. Credit is given to the different sources of information.

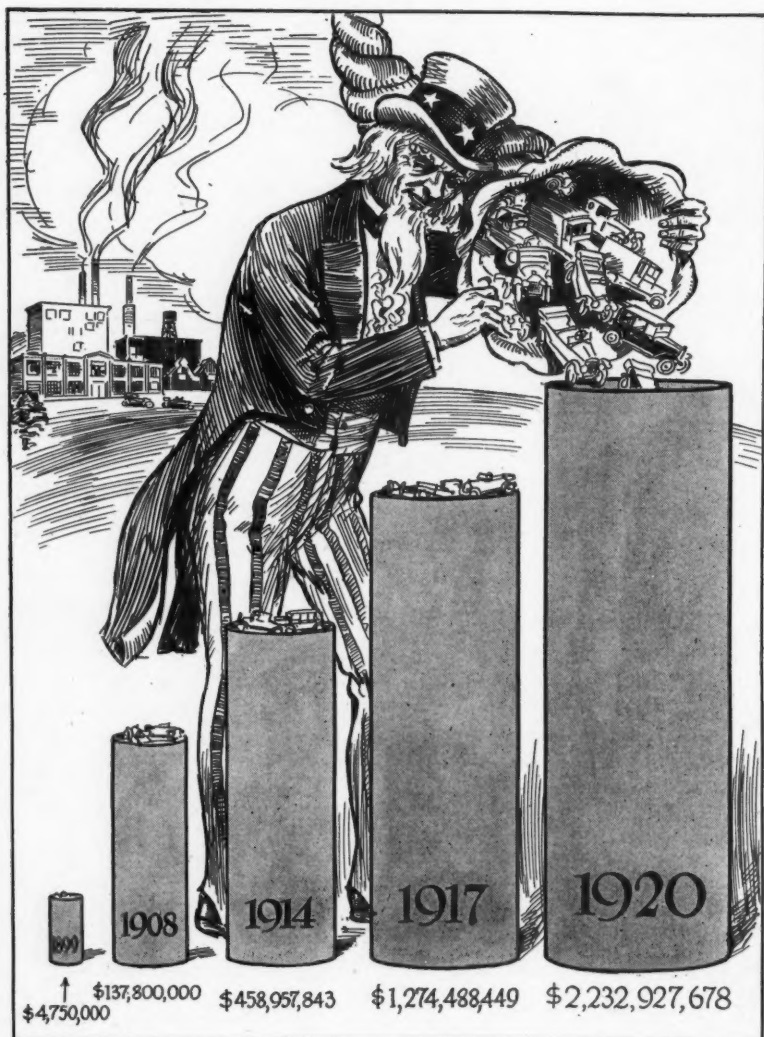
*Facts and Figures* has been compiled to be useful to those within and informative to those without the industry that all may have a fuller conception of the automobile's part in modern civilization.

A table of contents by general subjects is on the inside cover, and a detailed index in the back of the book.

Suggestions for future editions will be appreciated.

NATIONAL AUTOMOBILE CHAMBER OF COMMERCE

## 2¼ Billion Dollar Sales in 1920



Car and truck business in 1920 totaled \$2,232,927,678 (wholesale valuation), exclusive of parts, tires and accessories. Comparison in the chart is by cubic measure

**1920**

**\$3,594,814,620 Volume of  
Motor Vehicle, Parts, Tires and Accessories  
Wholesale Business**

Value complete car and truck output.....	\$2,232,927,678
Value parts and accessories output.....	725,136,942
Value tire replacement output.....	636,750,000

**Motor Vehicles Produced 2,205,197**

Number cars.....	1,883,158
Number trucks.....	322,039
Per cent gain over 1919.....	12%
Per cent exported.....	7½%

**Registration in U. S. A. 9,211,295**

Per cent gain over 1919.....	22%
Number automobiles on farms, approx.	3,000,000

**Motor Vehicle Mfg. Business:**

Capital invested.....	\$1,204,378,642
Number of employees.....	325,000
Wages and salaries.....	\$482,950,000

**Tire and Fuel Figures:**

Gasoline produced.....	4,882,546,699 gal.
Gasoline consumed.....	4,256,428,005 gal.
Tires produced.....	32,400,000

## Passenger Car Gains in 1920

**Total Output** **1,883,158**

Open cars.....	1,563,022
Closed cars.....	320,136
Per cent of closed cars in total output..	17%
Gain in car production over 1919.....	14%
Wholesale value of cars produced.....	\$1,809,170,963
Per cent of output exported.....	7½%

**Number of Passenger Cars in U. S. 8,221,297**

Largest state user, New York.....	521,417
State having biggest per cent gain, West Virginia.....	61%
Per cent owned by farmers.....	33%

### Size of Passenger Car Mfg. Business:

Capital invested.....	\$798,785,000
Number of factories.....	129
Value of repair parts business.....	\$205,039,000

### Retail Passenger Car Business:

Dealers.....	33,893
Garages.....	35,887
Repair shops.....	45,135
Charging Stations.....	4,204

## Motor Truck Progress in 1920

**Total Production** 322,039

Wholesale value of output.....\$423,756,715

Per cent of output exported..... 9%

**Commercial Vehicle Registration** 990,000

Number of states registering  
trucks separately..... 35

Largest state user, New York..... 148,873

Trucks on farms, approximately.... 100,000

Motorized express companies in  
U. S..... 2,949

### Size of Truck Mfg. Business:

Capital invested in.....\$405,593,600

Number of factories..... 222

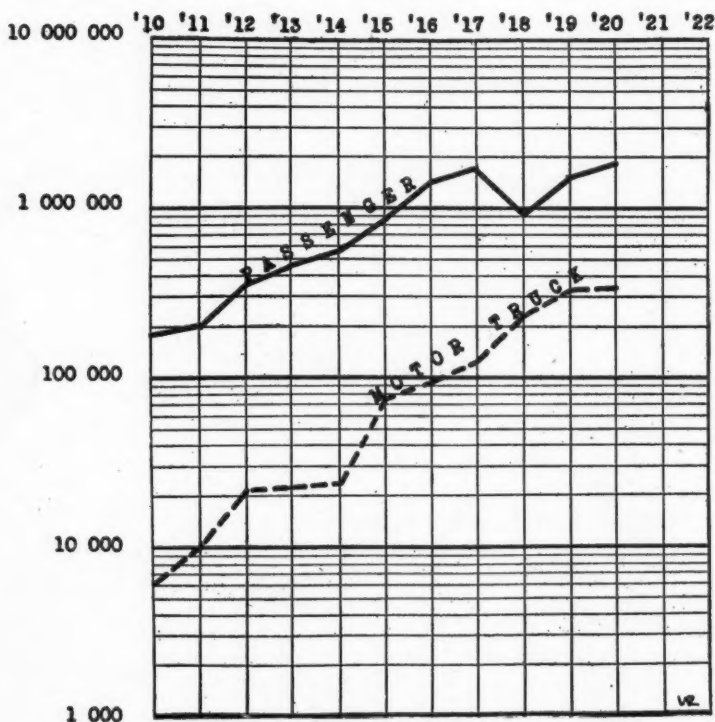
Value of parts produced..... \$81,192,000

**Truck Dealers** 21,948

# 1920 Production Shows 12% Gain

## Numerical Increase of 231,181 Automobiles

Total motor vehicles made since 1899.....	11,839,483
Number exported—1911-1920.....	617,887
Number imported—1911-1920.....	4,192
Number registered in 1920.....	9,211,295
Number of cars worn out.....	2,000,000



"The Slope of the Line tells the Story."

Chart shows rate of increase in car and truck production. The drop in the passenger car line during 1918 was due to the fact that the factories were devoted largely to war production. Truck output climbed during the same period because of the demand for commercial vehicles in both military and civil transport.

# Annual Production of Motor Vehicles

## PASSENGER AND COMMERCIAL COMBINED

Year	Number	Wholesale Val.	Year	Number	Wholesale Val.
*1899.....	3,700	\$4,750,000	1912.....	378,000	\$378,000,000
1903.....	11,000	12,650,000	1913.....	485,000	425,000,000
*1904.....	21,975	30,864,616	*1914.....	569,045	458,957,843
1905.....	25,000	40,000,000	1915.....	892,618	691,778,950
1906.....	34,000	62,900,000	1916.....	1,583,617	954,969,353
1907.....	44,000	93,400,000	†1917.....	1,868,947	1,274,488,449
1908.....	65,000	137,800,000	†1918.....	1,153,637	1,236,106,917
*1909.....	127,731	165,148,529	1919.....	1,974,016	1,885,112,546
1910.....	187,000	225,000,000	1920.....	2,205,197	2,232,927,628 ×
1911.....	210,000	262,500,000			

### PASSENGER CARS

*1899.....	3,700	\$4,750,000
*1904.....	21,281	23,634,367
*1909.....	127,731	159,918,506
1910.....	181,000	213,000,000
1911.....	199,319	240,770,000
1912.....	356,000	335,000,000
1913.....	461,500	399,902,000
*1914.....	543,679	413,859,379
1915.....	818,618	565,978,950
1916.....	1,493,617	797,469,353
†1917.....	1,740,792	1,053,505,781
†1918.....	926,388	801,937,925
1919.....	1,657,652	1,461,785,925
1920.....	1,883,158	1,809,170,963

### MOTOR TRUCKS

*1904.....	411	\$946,947
*1909.....	3,255	5,230,023
1903 to 1910	10,374	20,485,500
1911.....	10,655	22,292,321
1912.....	22,000	43,000,000
1913.....	23,500	44,000,000
*1914.....	25,375	45,098,464
1915.....	74,000	125,800,000
1916.....	90,000	157,500,000
†1917.....	128,157	220,982,668
†1918.....	227,250	434,168,992
1919.....	316,364	423,326,621
1920.....	322,039	423,756,715

\*From U. S. Census reports.

†Production figures compiled by Automotive Products Section, War Industries Board, from sworn statements by manufacturers.

## Growth of Motor Vehicle Industry

(Figures include parts and accessories business)

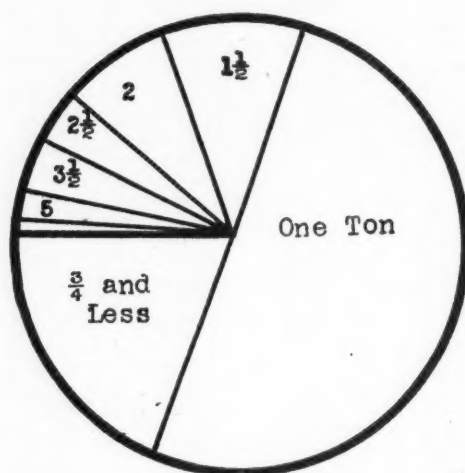
	1899*	1904*	1909*	1914*	1920**
Capital Invested.....	\$5,769,000	\$23,084,000	\$173,837,000	\$407,730,000	\$2,126,717,377
Value of Products.....	\$4,748,000	\$30,034,000	\$249,202,000	\$632,831,000	\$2,958,064,620
Persons Engaged in Mfg.....		13,333	85,359	145,951	703,560
Wages and Salaries.....	\$1,616,000	\$8,416,000	\$58,173,000	\$139,453,000	\$1,041,566,775

\*From U. S. Census Reports.

\*\*Estimated from known statistics of exclusively motor vehicle manufacture, with assumption that parts and accessories business has shown same rate of increase.



## 1920 Truck Production by Capacities



Size	Number	Per Cent
3/4-Ton.....	61,187	19%
1 -Ton.....	164,240	51
1 1/2-Ton.....	35,424	11
2 -Ton.....	25,763	8
2 1/2-Ton.....	12,871	4
3 1/2-Ton.....	12,893	4
5 -Ton.....	6,441	2
Over 5-Ton.....	3,220	1
	<b>322,039</b>	<b>100%</b>

*Truck production in 1920 was 5,695 greater than in 1919. The 1-ton size increased from 47% to 51% of the total output.*

## Motor Vehicle Factories by States

State	Pas- senger Car	Motor Truck	Total Motor Vehicle	State	Pas- senger Car	Motor Truck	Total Motor Vehicle
Alabama.....	..	..	..	Nevada.....	..	..	..
Arizona.....	..	..	..	New Hampshire.....	..	1	1
Arkansas.....	1	..	1	New Jersey.....	3	3	6
California.....	1	9	9	New Mexico.....	..	..	..
Colorado.....	..	..	..	New York.....	7	21	27
Connecticut.....	2	3	4	North Carolina.....	..	1	1
Delaware.....	2	..	2	North Dakota.....	..	..	..
District of Columbia.....	..	1	1	Ohio.....	18	23	41
Florida.....	..	..	..	Oklahoma.....	2	1	3
Georgia.....	1	3	3	Oregon.....	1	1	2
Idaho.....	..	..	..	Pennsylvania.....	3	21	24
Illinois.....	14	34	43	Rhode Island.....	..	1	..
Indiana.....	26	12	36	South Carolina.....	1	..	1
Iowa.....	..	5	5	South Dakota.....	..	..	..
Kansas.....	..	..	..	Tennessee.....	..	..	..
Kentucky.....	1	1	1	Texas.....	3	4	4
Louisiana.....	1	3	3	Utah.....	..	..	..
Maine.....	..	..	..	Vermont.....	..	..	..
Maryland.....	1	..	1	Virginia.....	..	2	2
Massachusetts.....	6	5	10	Washington.....	..	2	2
Michigan.....	24	38	54	West Virginia.....	1	1	1
Minnesota.....	..	6	6	Wisconsin.....	4	13	15
Mississippi.....	..	..	..	Wyoming.....	..	..	..
Missouri.....	6	5	9				
Montana.....	..	..	..				
Nebraska.....	..	2	2	<b>Total.....</b>	<b>129</b>	<b>222</b>	<b>320</b>

## Railroad Freight Car Load Shipments from Automobile Factories

Year	1914	1915	1916	1917	1918	1919	1920
January.....	11,114	9,069	21,202	23,292	11,528	17,039	25,057
February.....	12,172	11,973	23,581	22,385	12,030	19,152	25,505
March.....	15,067	17,192	29,622	29,443	16,728	23,744	29,326
April.....	16,222	18,912	27,689	27,700	17,797	25,267	17,147
May.....	12,405	15,392	25,120	26,451	17,833	24,497	21,977
June.....	8,617	17,075	24,558	21,524	15,869	22,196	22,516
July.....	5,605	14,317	18,451	19,993	13,741	24,897	23,082
August.....	9,612	16,959	21,237	22,044	13,868	22,677	23,386
September.....	12,209	18,940	22,089	20,538	10,897	24,711	20,804
October.....	12,003	17,848	19,876	21,403	10,667	29,843	17,209
November.....	7,710	17,138	18,169	18,942	9,254	26,690	13,253
December.....	7,378	17,760	19,580	15,827	11,258	24,004	11,802
<b>Total.....</b>	<b>130,114</b>	<b>192,575</b>	<b>271,174</b>	<b>269,542</b>	<b>161,470</b>	<b>284,717</b>	<b>251,064</b>
Estimated unreported.....							11,231
<b>Grand Total.....</b>							<b>262,295*</b>

\*Motor cars and motor trucks driven overland from the factories in 1920 through lack of freight car supply would have made 134,000 additional freight car loads.

*Extract from President Harding's Mes-  
sage to Congress, April 12, 1921*

---

"The highways are not only feeders to the railroads and afford relief from their local burdens; they are actually lines of motor traffic in interstate commerce. They are the smaller arteries of the larger portion of our commerce, and the motor car has become an indispensable instrument in our political, social and industrial life."

## COMMENTS ON THE AUTOMOBILE

---

***H. S. Cumming, Surgeon General of the  
U. S. Public Health Service, says:***

"When life and death are running close motor transport is often a decisive factor.

"Motorized ambulances and private motor equipment are as much a part of the modern physician's necessities as modern hospital conveniences.

"The motor vehicle has broadened the sphere of the usefulness of the physician and has actually saved thousands of lives as a result."

***A. Barton Hepburn, Chairman of the Advisory  
Board, Chase National Bank of New York, says:***

"The automobile industry produces, in the final analysis, not motor cars and motor trucks, but transportation, exactly as coal and steel and grain and cloth are basic necessities."

***Francis H. Sisson, Vice-President, Guaranty  
Trust Company of New York, says:***

"The day has long since gone by when the automobile could be regarded as a luxury. Its manufacture today is one of our great essential industries and must be so regarded by all.

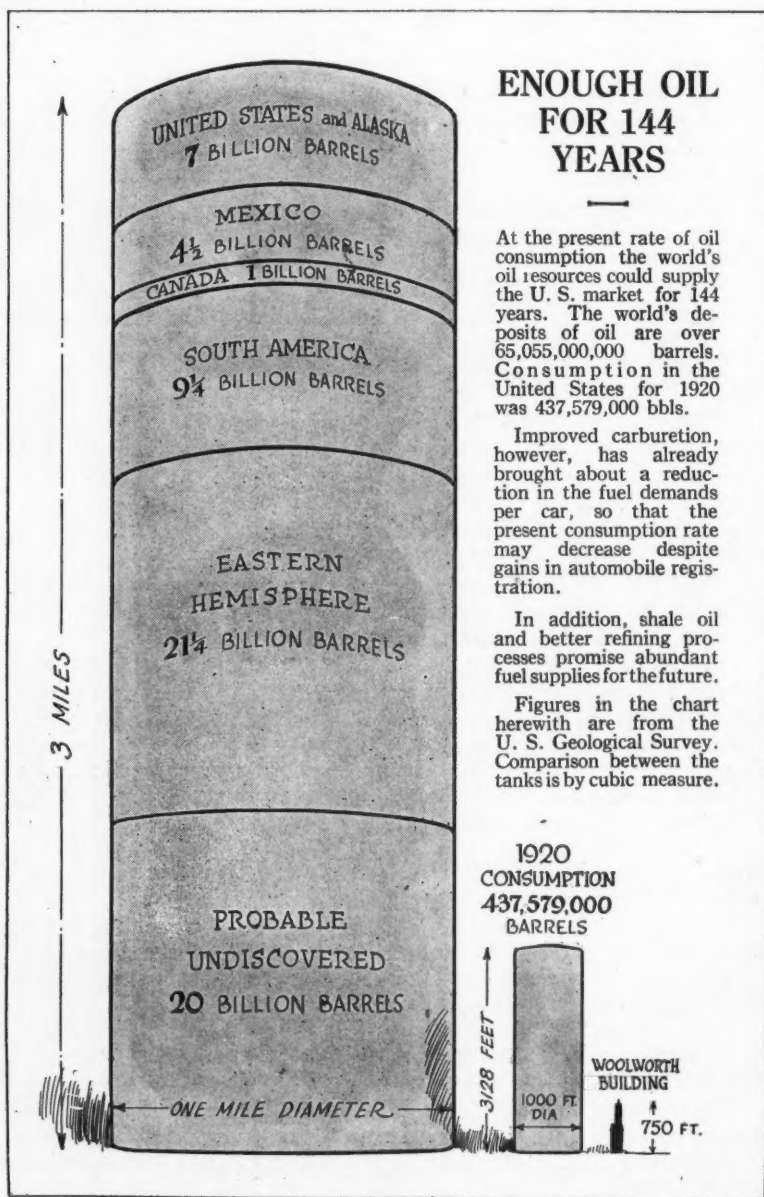
The economic value of the motor car has become of such importance in the saving of time and effort that every possible constructive assistance should be given it in the economic development of the country. Scientific distribution is becoming a constantly increasing factor of importance in the business world and a realization of the vast aid to be rendered to distribution as an economic force by the motor car is only just beginning."

***Hon. Arthur Capper, U. S.  
Senator from Kansas, says:***

"The farmer is quick to invest in any machine that enables him to keep up the high level of productivity \* \* \* a recent investigation showed over 75 per cent of the middle-western farmers bought their automobiles not for pleasure but for business."

***E. C. Stokes, President of the Mechanics National  
Bank, Trenton, N. J., and former Gov. of N. J., says:***

"It might be well to call attention to the importance of the automobile not only as a factor in the necessary transportation facilities of the country, but a promoter of the happiness and morals of our people."



# Fuel Supply Exceeds Consumption in 1920

## Crude Oil Figures for United States.

(Figures from U. S. Geological Survey)

Year	Production	Consumption	Excess of Supply Over Demand
	(In Bbls. of 42 Gals.)		
1916	300,767,158 bbl.	308,000,000 bbl.	-7,232,842
1917	335,315,601 "	351,500,000 "	-16,184,399
1918	355,927,716 "	380,000,000 "	-24,072,284
1919	377,719,000 "	371,500,000 "	+6,219,000
1920	443,402,000 "	437,579,000 "	+5,813,000

## World's Oil Production

(Figures from American Petroleum Institute)

Country	1919	1920
United States.....	377,719,000	443,402,000
Mexico.....	87,072,954	159,800,000
*Russia.....	34,284,000	30,000,000
Dutch East Indies.....	15,780,000	16,000,000
India.....	8,453,800	8,500,000
Roumania.....	6,517,748	7,406,318
Persia.....	6,289,812	6,604,734
Galicia.....	6,255,000	6,000,000
Peru.....	2,561,000	2,790,000
Japan and Formosa.....	2,120,500	2,213,083
Trinidad.....	2,780,000	1,628,637
Argentina.....	1,504,300	1,366,926
Egypt.....	1,662,184	1,089,213
†France.....		700,000
Venezuela.....	321,396	500,000
Canada.....	220,100	220,000
†Germany.....	925,000	215,340
Italy.....	38,254	38,000
Total.....	554,505,048	688,474,251

## Gasoline Figures for United States

(Figures from U. S. Bureau of Mines)

Year	Production	Consumption	Excess of Supply Over Demand
1916	2,058,880,596 gal. approx. prod.		
1917	2,850,546,423 "	2,694,704,251	144,157,828
1918	3,570,312,963 "	3,685,242,813	-114,929,850
1919	3,957,857,097 "	3,808,390,649	+149,466,448
1920	4,882,546,699 "	4,256,428,005	+626,118,694

\*No exact information available.

†The Alsatian field's production appears under Germany in 1919 and under France in 1920.

## CARS AND TRUCKS USE 2.7% OF 1920 STEEL OUTPUT

Average amount steel used by car.....	913 lbs.†
" " " used by truck.....	1370 lbs.*
Total amount steel in 1920 car production.....	896,656 tons
Total amount steel in 1920 truck production.....	220,596 tons
Total steel consumption by automobiles.....	1,117,252 tons
1920 steel production.....	41,000,000 tons**
Percent. steel production consumed by automobiles.....	2.7

†Figure supplied to War Industries Board by N. A. C. C. Raw material consumption approximately the same in present day models.

\*Estimated at 1½ times the material consumed by car.

\*\*Figure from Iron Age.

## OIL REFINERIES SHOW BIG GAIN IN DAILY CAPACITY

(From Bureau of Mines; figures as of January 1 each year.)

Year	Building	Completed	Daily Capacity Barrels
1914*		176	
1918.....		267	1,186,155
1919.....		289	1,295,115
1920.....	99	373	1,530,565
1921.....	44	415	1,888,800

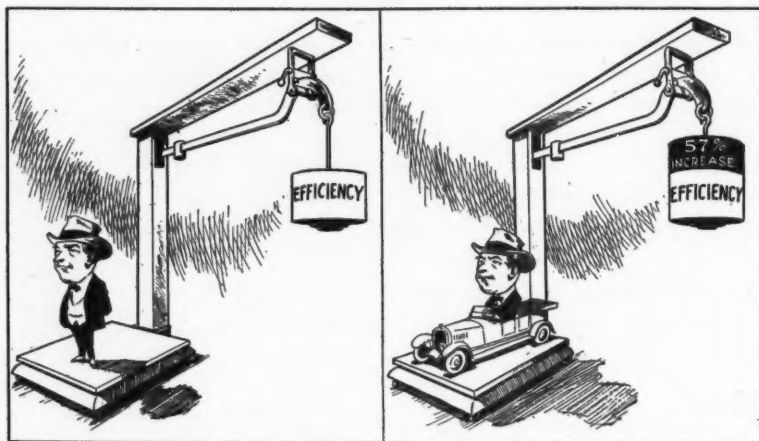
\*From the Bureau of the Census.

## Rubber Production

(From World's Rubber Position, London, Eng.)

Year	Plantation	Other Sources	Total Tons	Year	Plantation	Other Sources	Total Tons
1909	3,600	62,000	69,600	1915	107,867	50,835	158,702
1910	8,200	62,300	70,500	1916	152,650	48,948	201,598
1911	14,419	60,730	75,149	1917	213,070	52,628	265,698
1912	28,518	70,410	98,928	1918	255,950	40,629	296,579
1913	47,618	60,822	108,440	1919	285,225	41,635	326,860
1914	71,380	49,000	120,380	1920	360,000	43,000	403,000

## OWNERS SAY CARS INCREASE EFFICIENCY 57%



Figures on increased productivity due to automobile ownership are compiled from answers to thousands of questionnaires mailed to owners by the National Automobile Chamber of Commerce during the past year. These question cards went to automobile license holders taken at random from the registration lists of ten widely selected States: California, Iowa, Massachusetts, Minnesota, Nebraska, New York, Ohio, Texas, Virginia and Wyoming.

### TESTIMONY OF CAR OWNERS

Added productivity due to car use.....	57%
Mileage used for business purposes.....	60%
Per cent of all cars used more or less for business.....	90%
Amount of total mileage used where there is no other adequate communication.....	34%
Number of owners improving living conditions through use of car (suburban life, etc.).....	37%

## What "Main Street" Gains from the Automobile Business

(From Automobile Topics)

Okmulgee, Oklahoma, and its motor trade may serve to represent the position of the automotive business in our town—any town. From figures gathered by Secretary Daniel J. Nolan of the Okmulgee Automobile Dealers Association, it is learned that the twenty members employ more than two hundred men, are doing business this year at the impressive rate of \$3,047,000 for the year, and all this without thinking they have contributed more than their share to the city's wealth. The weekly payroll of the twenty in November amounted to \$7,500; the investment in buildings, cars and stocks at the close of the month was counted as \$621,000 and credit resources to the tune of \$600,000 were available to handle the business. "We think a whole lot of the automobile business in our town."



## AUTOMOBILES AID ALL OCCUPATIONS

### GAIN THROUGH CAR USE OVER PREVIOUS INCOME OR EFFICIENCY



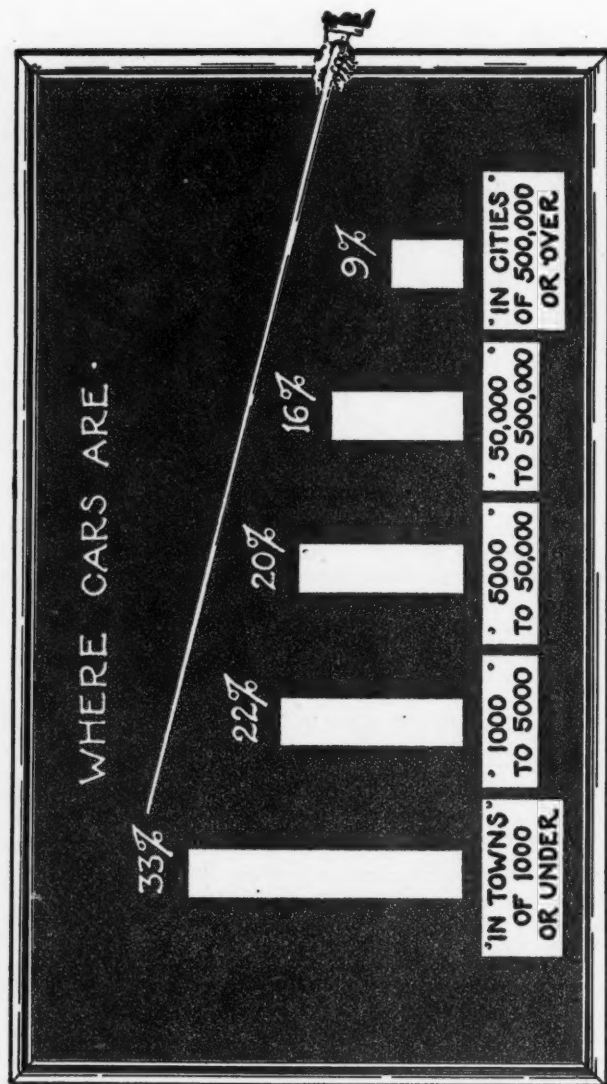
Every business, every profession, gains through use of the automobile. The chart above shows the average results of thousands of questionnaires sent to car owners throughout the country. The white part of the column shows the norm of business done before using the car. The shaded portion shows the degree of increase.

Farmers show a gain of 68 per cent in their individual efficiency. This is an especially important figure, as the farmer is the largest class of car owners. Farmer-owned cars total about 3,000,000 or nearly 1-3 of all cars in use.

Bankers in rural districts find their cars productive in passing on mortgages and in getting acquainted with their out-of-town trade. The heavy gain here partially offsets the relatively small car utility in these occupations in the large cities where the business is more confined to the office. Manufacturers report a great saving in their time through car use as plants are frequently several miles from their homes, and motoring proves the most efficient means of transportation.

Men not on a salary can translate the productivity of their cars into immediate cash gains. Clergymen and school supervisors, however, do not necessarily find a monetary increase, but do report a very high gain in the amount of additional work which they can compass.

The automobile business has made good. It has demonstrated that it was a utility which was one of the things that was asked of it.—George E. Roberts, Vice-President National City Bank, New York.



## FARMERS ARE LARGEST BUYERS OF AUTOMOBILES

More automobiles are owned by farmers than by any other single buying class. 33 per cent of cars are in districts under 1,000 population and 22 per cent in communities between 1,000 and 5,000 according to a survey by J. Newton Gunn, president of the U. S. Tire Co. These figures check up with state registration statistics which indicate the heaviest use of cars in farming regions, such as Iowa, where there is one car for every six persons. Figures compiled by the National Automobile Chamber of Commerce show that the 12 largest cities, New York, Chicago, Philadelphia, Detroit, Cleveland, St. Louis, Boston, Baltimore, Pittsburgh, Los Angeles, San Francisco, Buffalo, all over 500,000 population, have but 9 per cent of the total motor vehicle registration.

## Farmer-Owned Passenger Cars

(Figures from Farm Journal)

State	No. of Farm Motor Cars	No. of Cars per 100 Farms	State	No. of Farm Motor Cars	No. of Cars per 100 Farms
Texas.....	203,248	47	New Jersey.....	34,314	116
Iowa.....	203,201	95	Tennessee.....	34,149	13
Illinois.....	184,453	78	Oregon.....	32,210	64
Ohio.....	172,085	67	Maryland.....	29,579	62
New York.....	167,490	87	Massachusetts.....	29,223	91
Pennsylvania.....	163,465	81	Maine.....	28,408	59
Kansas.....	139,435	84	Arkansas.....	27,983	12
Indiana.....	128,683	63	Florida.....	26,823	50
Michigan.....	125,883	64	Alabama.....	26,775	10
Nebraska.....	120,190	95	Mississippi.....	24,780	9
Wisconsin.....	119,833	63	Idaho.....	21,404	51
California.....	116,325	99	West Virginia.....	20,764	24
Minnesota.....	111,246	62	Connecticut.....	20,218	89
Missouri.....	90,733	34	Utah.....	19,998	78
Oklahoma.....	80,598	42	Louisiana.....	19,308	13
South Dakota.....	61,515	82	Vermont.....	18,381	63
North Dakota.....	59,166	76	New Hampshire.....	14,860	72
Washington.....	55,420	84	New Mexico.....	12,704	43
North Carolina.....	52,374	19	Wyoming.....	11,578	74
Georgia.....	48,985	16	Arizona.....	9,624	89
Virginia.....	43,668	23	Delaware.....	7,364	73
Kentucky.....	41,945	15	Rhode Island.....	4,490	110
Colorado.....	39,223	65	Nevada.....	3,284	104
South Carolina.....	37,875	20			
Montana.....	35,550	62			
			<b>Total U. S.....</b>	<b>3,080,810</b>	<b>2,892</b>

### FIFTY-FIVE PER CENT OF PENNSYLVANIA FARMERS OWN CARS

(From Automotive Industries)

Seven out of every hundred farmers in Pennsylvania purchased automobiles during 1920, while at the present time, fifty-five out of every hundred farmers in the State own automobiles, not including farm trucks, according to Statistician L. H. Wible, of the Pennsylvania Department of Agriculture.

More than 100,000 farmers in the State own automobiles, many of these owning two and three machines, while there are 14,325 farms in the State upon which motor trucks are in use. Lancaster

county easily leads in the number of automobiles on the farms, this county having 7,914 cars on its farms on January 1, 1921, while Berks county is second with 3,836. Cameron county, with 90 automobiles, has the fewest of any in the State.

The 1920 census figures give Pennsylvania 202,298 farms, as compared with the number of January 1, 1920, which was based on the old census figures which gave Pennsylvania 219,000 farms:

## 30,000 MOTOR VEHICLES FOR STATE GOVERNMENTS

25,000 cars and 5,000 trucks are serving the various departments of the governments of the 48 states. Pennsylvania owns 826 freight and passenger automobiles. Georgia operates 603 commercial vehicles.

### Iowa Leads in Truck Use

Among the greatest users of motor trucks are the following states. Some states have not compiled their truck totals which might qualify them to appear in the list:

Iowa.....	656
Georgia.....	603
New York.....	553
Pennsylvania.....	490
Tennessee.....	463
South Dakota.....	275
New Mexico.....	250
Connecticut.....	179

### Pennsylvania Largest Car User

The line-up for passenger car leadership is somewhat different:

Pennsylvania.....	336
California.....	325
Oregon.....	155
Massachusetts.....	147
Washington.....	147
Maryland.....	140
Maine.....	134
Ohio.....	134
Idaho.....	392*
Virginia.....	410*

\*May include truck figures, not specified.

## STATE-OWNED CARS PROMOTE WELFARE

### DEPARTMENTAL USE OF AUTOMOBILES

HIGHWAYS •

HEALTH •

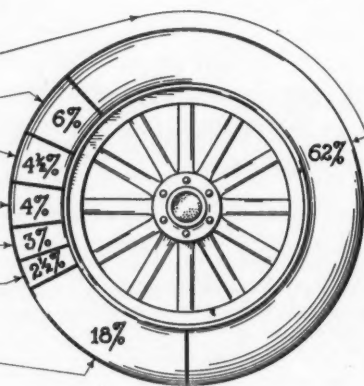
EDUCATION •

AGRICULTURE •

PRISONS •

POLICE •

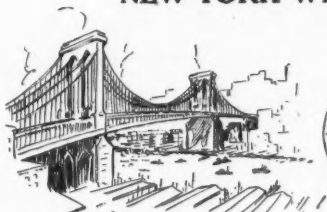
PARKS, PORTS  
& MISC. •



Nearly 5,000 passenger automobiles are used by State authorities for the promotion of departmental work in highways, health, and other public welfare activities. 62 per cent of the cars are used by highways departments, as shown in the above chart.



## 154,700 CARS AND TRUCKS LINK NEW YORK WITH MAINLAND DAILY



139,900 OVER BRIDGES



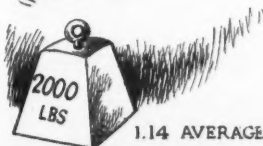
14,846 OVER FERRIES



2.7 AVERAGE PASSENGERS  
CARRIED



95% OF MANHATTAN BRIDGE  
TRAFFIC MOTOR DRIVEN



1.14 AVERAGE TONNAGE



1,344 CARS PER HOUR  
HIGHEST RATE OVER  
QUEENSBOROUGH BRIDGE



20,214 MANHATTAN BRIDGE

17,594 QUEENSBOROUGH BRIDGE

12,921 MADISON AVE BRIDGE

### NEW YORK CAR USE EQUALS $\frac{1}{3}$ SUBWAY TRAVEL

154,700 cars and trucks enter and leave Manhattan daily.

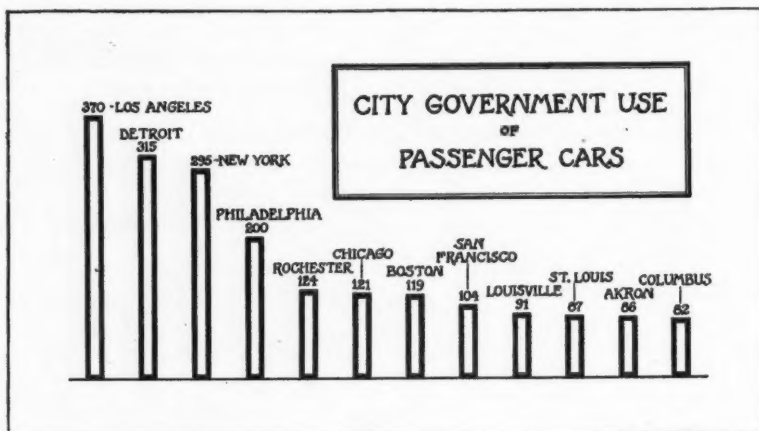
The bridge traffic totals 139,900 motor vehicles, and the automobiles crossing by ferry number 14,846.

The 418,000 persons using motors for entering and leaving the city equal one-third the subway travel and one and one-half times the Long Island R. R. traffic.

Manhattan and Queensborough bridges have the heaviest motor traffic which at times is as high as 1,344 cars per hour. 95 per cent of Manhattan Bridge traffic is motor-driven, and 78 per cent of all the bridge vehicular traffic is motorized.

Bridge figures are compiled from surveys of the Department of Plant and Structures, City of New York, ferry figures from the New Jersey Interstate Bridge and Tunnel Commission.

## 10,000 Automobiles Serve U. S. Municipalities



5,000 passenger cars are owned by American Municipalities. The City of Los Angeles is the leading user with other cities ranking as shown above.

These automobiles are used on the average as follows: Light & Water Departments, 22½ per cent, Police 19½ per cent, Streets 18 per cent, Fire 17 per cent, Health 16½ per cent, Parks 6½ per cent.

5,000 motor trucks also are owned by municipalities, among the leading users being New York 438, Detroit, 206, Salt Lake City 47, Pasadena 45, Worcester 34, Galveston, 24.

The above figures are compiled from responses to questionnaires sent to Mayors of Municipalities throughout the country. New York figures are supplied by Rebecca B. Rankin, Municipal Librarian; Chicago figures by Chicago Association of Commerce.

## TELEPHONE COMPANIES USE THOUSANDS OF CARS

Thousands of cars and trucks are being used by telephone companies throughout the United States in keeping the lines in order. Passenger cars, usually roadsters, are used for the supervisors. Many of these automobiles are equipped with tool boxes so that minor repairs can be made immediately. Motor trucks are used extensively in heavy repair work and in new construction.

The New York Telephone Company is the leading owner in this industry. It has a fleet totalling 935, of which 707 are passenger cars and 228 are motor trucks. Leading telephone companies using passenger cars are as follows:

Company	No. of Pass. Cars Used
New York Telephone Co.....	707
Bell Telephone Co. of Pennsylvania.	514
Pacific Tel. & Tel. Co.....	204
Chicago Telephone Co.....	170
Southern New England Telephone Co.	157
Iowa Telephone Co.....	120
Southwestern Bell Telephone Co. of Missouri.....	96
Wisconsin Telephone Co.....	89
Nebraska Telephone Co.....	51
Michigan State Telephone Co.....	130
Central Union and Cleveland Tel. Co.	268

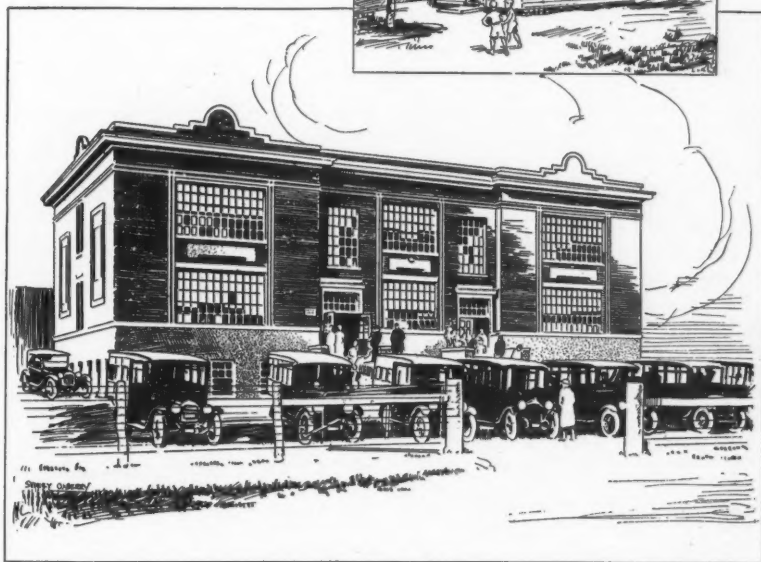
## Motor Bus Use in 12,000 Rural Schools

		STATE	Children Carried	% Carried by Motor Bus*
Number of consolidated (rural union) schools in U. S. . . . .	12,000†	Minnesota . . . . .	16,368	25
Number of one-room district schools in U. S. . .	194,000†	Massachusetts . . . . .	25,935	18
Per cent of vehicular traffic motorized. . . . .	50.†	Connecticut . . . . .	2,356	11
Number of children transported and per cent carried by motor, by States:		Vermont . . . . .	3,590	few
		Mississippi . . . . .	30,772	not recorded
		North Dakota . . . . .	23,000	" "
		Georgia . . . . .	5,783	" "
		Texas . . . . .	2,683	" "
		South Dakota . . . . .	2,388	" "

†Figures from U. S. Bureau of Education.

\*Figures from State Supts. of Educ.

STATE	Children Carried	% Carried by Motor Bus*
Florida . . . . .	7,867	nearly 100%
Alabama . . . . .	4,684	79
Illinois . . . . .	200	75
Kentucky . . . . .	4,500	66
Delaware . . . . .	810	50
Washington . . . . .	20,000	40
Iowa . . . . .	30,000	40



### BEFORE AND AFTER THE COMING OF THE CAR

Above—a typical one-room rural school. Below—Sargent Consolidated School, Rio Grande County, Colo., the result of combining several one-room schools. Twelve buses are used to transport 325 children daily. Value of plant and equipment, \$190,000. Both sketches are from photographs.



## AUTOMOBILES NOW TWICE AS SAFE

### Ratio of Fatalities per Car Halved in Five Years

Figures showing the relation of car fatalities to various factors related to accident indicate a decline of 50 per cent in the ratio of fatalities per car as follows:

Year	Number Auto Deaths per Car	Total Number Auto* Deaths	Registration of Cars	Number of Cars per 1000 Population	Auto Deaths per 1000 Population
1914.....	.0025	4231	1,711,339	17	.0428
1915.....	.0024	5928	2,445,664	24	.0591
1916.....	.0021	7397	3,512,996	34	.0725
1917.....	.0019	9184	4,983,340	48	.0887
1918.....	.0016	9672	6,146,617	59	.0919
1919.....	.0013	9827	7,558,848	71	.0936

\*Estimated of entire U. S. by National Workmen's Compensation Service Bureau applying Census Bureau figures for registration area to grand total.

## AUTOMOBILES PROMOTE RURAL WELFARE WORK

District nurses, the Red Cross, the Y. M. C. A., and other welfare agencies are using the automobile extensively in rural work.

The Red Cross is using over one thousand cars for district nursing and home service activities.

There are 900 county Y. M. C. A. secretaries in the United States who are motoring around country roads, bringing lectures, athletic events, motion pictures, and other forms of education and enter-

tainment to rural centers. Of the 900, 225 have cars as part of their equipment, and many other secure volunteer motor service from the neighborhood.

"A passenger car is an absolute necessity for the county secretary"—A. E. Roberts, General Secretary of the Y. M. C. A. county division.

There are 90 County Superintendents of Public Welfare in North Carolina, the great majority of whom own passenger cars.

### Doctor Use of Passenger Cars

Number of doctors in United States.....	150,000	Per cent of mileage for business.....	84%
Number of doctors using cars.....	100,000	Increased productivity due to car's use (includes urban as well as rural physicians), per cent...	104%
Average annual mileage...	9,280		
Average business mileage..	7,850		

### AUTOMOBILES IN POST-OFFICE USE

Vehicles motorized in Postal Service.....	50%
Number of city post-offices using motor vehicle service.....	163
Number of rural routes using cars and trucks..	893
Number of War Department trucks turned over to Postal Service..	5,500

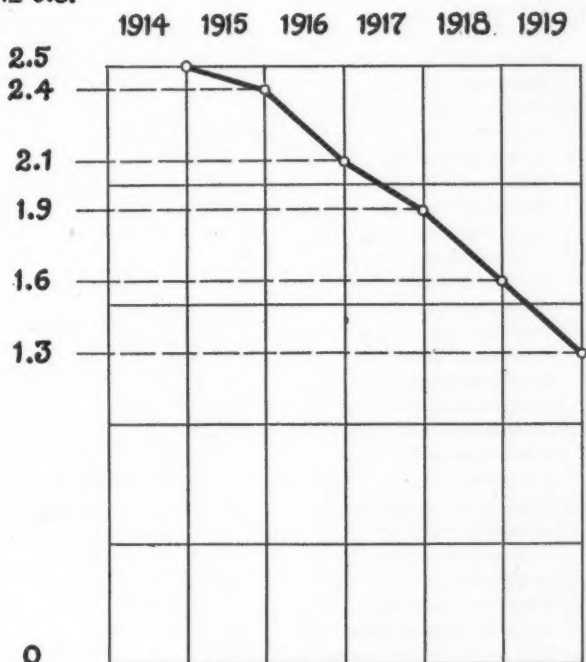
### CITIES REDUCING FATALITIES IN 1920

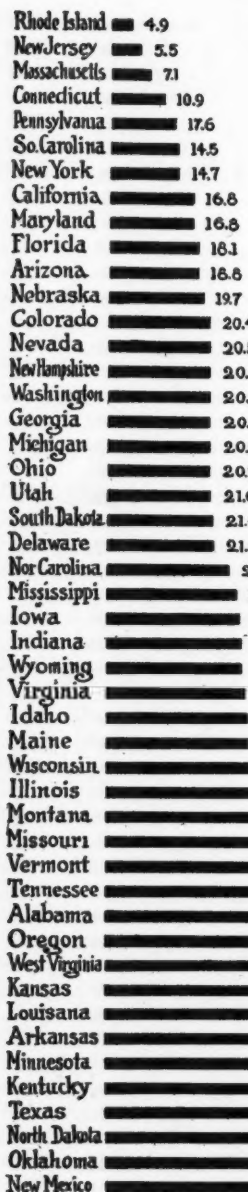
City	Reduction in Fatalities
New York.....	21
Pittsburgh.....	11
Boston.....	9
Milwaukee.....	9
Detroit.....	1

## AUTOMOBILES NOW TWICE AS SAFE

MORTALITY-PER-CAR CURVE  
DROPS 50% SINCE 1913

FATALITIES  
PER 1000 CARS  
IN THE U.S.





## Chart Showing Number of Farms of 100 Acres or More for Each Truck in Use.

(From Commercial Car Journal)

### How Trucks Reduce Farm Labor Costs

(Summary of replies to 1,500 questionnaires  
Compiled by System on the Farm)

Work Accomplished	Per Cent of Truck Owners
Same work with fewer men...	20.9
More work with same men....	61.9
More work with fewer men...	14.3

In regard to the displacement of horses, 33½ per cent of the truck owners said that they still used the same number of horses or mules. The rest claimed the truck had replaced from one to twelve horses, the average being 3.4.

Evidently, the truck need not replace the horses to make it a profitable investment. Rather it saves the horse and does additional work to which the horse is not so well adapted.

### Time-Saving by Motor Trucks Over Horse Vehicles on Farms in North Atlantic States

(Compilation of 753 owner reports from  
U. S. Dept. of Agriculture, Bulletin 910)

Size of Truck in Tons	Time Saved in Hauling			
	Crops	Milk	Feed	Fer- tilizer
¼.....	53%	52%	35%	..
¾.....	60	42	53	57%
1.....	65	57	62	52
1½ to 1¼...	67	..	66	63
2.....	71	..	75	75
Over 2.....	71	..	..	..

## Motorized Express Lines in the United States

Alabama.....	6	Maine.....	2	Oklahoma.....	24
Arizona.....	..	Maryland.....	66	Oregon.....	3
Arkansas.....	..	Massachusetts.....	76	Pennsylvania.....	153
California.....	307	Michigan.....	41	Rhode Island.....	40
Colorado.....	7	Minnesota.....	86	South Carolina.....	1
Connecticut.....	67	Mississippi.....	1	South Dakota.....	2
Delaware.....	1	Missouri.....	68	Tennessee.....	54
District of Columbia	30	Montana.....	25	Texas.....	126
Florida.....	16	Nebraska.....	8	Utah.....	26
Georgia.....	5	Nevada.....	1	Vermont.....	..
Idaho.....	7	New Hampshire.....	1	Virginia.....	..
Illinois.....	47	New Jersey.....	65	Washington.....	66
Indiana.....	607	New Mexico.....	..	West Virginia.....	1
Iowa.....	54	New York.....	586	Wisconsin.....	18
Kansas.....	15	North Carolina.....	13	Wyoming.....	2
Kentucky.....	46	North Dakota.....	42	<b>Total for 1920.....</b>	<b>2,949</b>
Louisiana.....	58	Ohio.....	74	<b>Total for 1919.....</b>	<b>1,956</b>
				<b>Gain.....</b>	<b>993</b>

## TRUCK TERMINAL CENTERS IN LEADING CITIES

In all of the major terminal centers in the above States there are to be found today fully organized motorized freight companies which are prepared to serve shipper in his short haul consignments. Evidence of this is seen in the following figures:

Routes	No. of Lines	Routes	No. of Lines
New York		Chicago	
To Philadelphia.....	19	To Milwaukee.....	7
" Baltimore.....	6	" Aurora.....	8
" Boston via New London.....	8	" Michigan City.....	12
" Boston via Springfield.....	3	" Kankakee.....	5
" Boston via Waterbury.....	4	" South Bend.....	2
	40		34
Cleveland		Pittsburgh	
To Detroit.....	11	To Beaver Falls.....	9
" Pittsburgh, Pa.....	11	" Latrobe.....	6
" Wheeling, W. Va.....	4	" Charleroi.....	5
" Buffalo, N. Y.....	7	" McDonald.....	4
" Columbus.....	9	" McKeesport.....	4
" Newark.....	4	" Cleveland.....	2
	46		30

## Number of Motor Express Companies in Other Leading Cities

Philadelphia.....	25	New Orleans.....	57
Boston.....	39	Kansas City.....	37
Baltimore.....	33	Seattle.....	55
Los Angeles.....	154	Indianapolis.....	89
San Francisco.....	32	Providence.....	40
Buffalo.....	47	Louisville.....	42
Cincinnati.....	49	Houston.....	17

## LOWER MILK COST THROUGH USE OF MOTOR TRUCKS

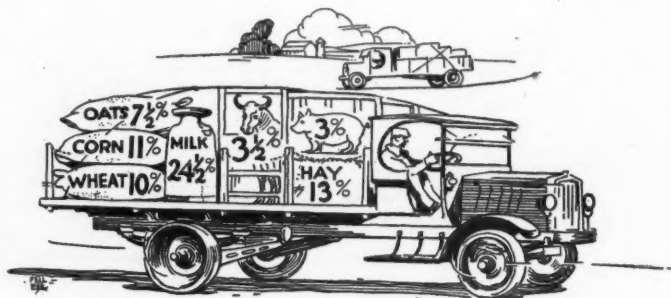
(Figures from a survey of dairy haulage, by Packard Motor Car Co.)

<b>NUMBER OF HOURS AWAY FROM FARM</b>		<b>COST TO DELIVER LOAD, 28 CANS MILK</b>	
Horses.....	7 hours 56 minutes	Horses.....	\$7.56
Truck.....	1 hour 54 minutes	Truck.....	2.52
<b>NUMBER OF MINUTES STANDING</b>		<b>COST TO DELIVER ONE CAN</b>	
Horses.....	54 minutes	Horses.....	.27 cents
Truck.....	26 minutes	Truck.....	9 cents
<b>AVERAGE SPEED MILES PER HOUR</b>			
Horses.....	2.82 miles		
Truck.....	10.4 miles		

## Motor Truck Operating Costs on Farms in North Atlantic States

(Compilation of 735 Owner Reports from U. S. Dept. of Agriculture, Bulletin No. 910)

Size of Truck	½-ton	¾-ton	1-ton	1½-ton	2-ton
Truck cost per mile run.....	\$0.082	\$0.127	\$0.119	\$0.190	\$0.203
Charge for driver per mile run.....	.070	.070	.075	.075	.075
Total.....	\$0.152	\$0.197	\$0.193	\$0.265	\$0.278
Cost per mile of haul (37% idle running).....	.241	.313	.308	.421	.441
Cost per ton-mile for hauling crops.....	.502	.338	.258	.242	.179



### PERCENTAGES OF FARM PRODUCTS NOW BEING TRANSPORTED BY MOTOR TRUCK

Motor trucks haul a diversified line of farm products, according to a survey by Packard Motor Car Co. Milk is foremost, using 24½ per cent of the average haulage by a farm truck. Other products range in importance as shown in the picture.

Miscellaneous items, not shown, total 28 per cent.

## Municipal Use of the Motor Bus

Over 150 municipalities are today using the motor bus. The Milwaukee Street Railway Company is among the first to use the bus to extend its service into the new residential and manufac-

turing centers. Its extensiveness is perhaps more apparent from the following figures on operations in some of the major cities of the country:

City	No. Buses**	Av. Mi. of Route
*New York, N. Y.....	519	25.00
Chicago, Ill.....	38	9.00
Detroit, Mich.....	..	4.75
Cleveland, Ohio.....	7	....
St. Louis, Mo.....	9	....
Baltimore, Md.....	20	2.63
San Francisco, Cal.....	5	3.00
Milwaukee, Wis.....	3	1.25
Toledo, Ohio.....	..	4.00

City	No. Buses**	Av. Mi. of Route
Seattle, Wash.....	5	16.00
Akron, Ohio.....	8	2.00
Fort Worth, Tex.....	8	4.90
Evansville, Ind.....	3	6.00
Wilkesbarre, Pa.....	49	11.00
South Bend, Ind.....	3	....
Rockford, Ill.....	..	41.00
Fresno, Cal.....	2	....
San Jose, Cal.....	2	....
Dubuque, Iowa.....	3	....
Plainfield, N. J.....	13	3.50
San Bernardino, Cal....	4	....
Greenfield, Mass.....	3	3.14
Sanford, Maine.....	9	2.50
Oklmulgee, Okla.....	6	4.00

\*The report of the Fifth Avenue Coach Co. of New York City for the year ending June 30th, 1920, indicates that the cost of operation a bus mile is 35.54 cents. The total revenue amounted to 49.50 cents a bus mile, giving the company a profit of 13.96 cents a bus mile.

\*\*In this study no attempt has been made to include jitneys, taxicabs or sight-seeing buses.

## Railroads Supplemented or Replaced by Motor Trucks

Railroad Company	Route	Distance Miles
*San Diego & Southeastern.....	California.....	....
*Tennessee Iron, Coal & R. R. Co.....	Tennessee.....	....
*Michigan Central.....	Michigan.....	....
*Boston & Albany.....	Massachusetts.....	....
**Androscoggin & Kennebec.....	Maine.....	....
†Ocean Shore.....	California.....	....
***Palatine, Lake Zurich & Wanconda.....	Palatine to Lake Zurich, Ill.....	16
§Pittsburgh & Susquehanna.....	Phillipsburg to Rainey, Pa.....	14
***Winchester & Western.....	Winchester, Va., to Wardensville, W. Va.....	40
***New Orleans & Lower Coast.....	Algiers to Buras, La.....	60
***Morristown Erie R. R. of N. J.....	Essex Falls to Morristown.....	10½

\*Motor trucks utilized as feeders to freight business.

\*\*Freight service abandoned in favor of motor express service.

\*\*\*Motor trucks equipped with flanged wheels used instead of steam locomotives.

†Application pending to abandon freight service in favor of motor express service.

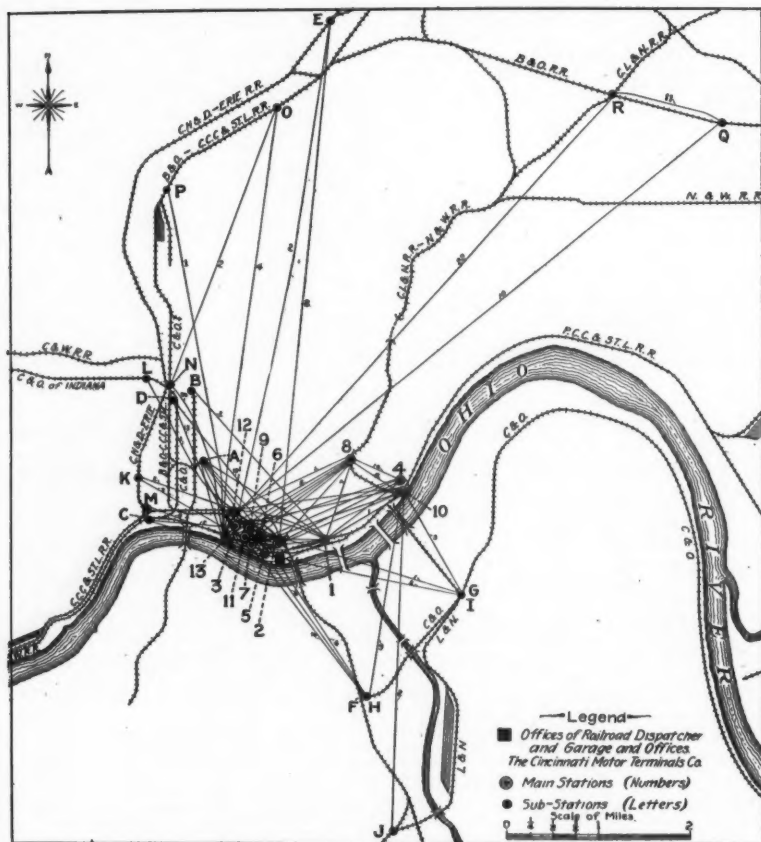
§Motor buses replacing passenger train service.

### 576 MASSACHUSETTS SHIPPERS TESTIFY TO MOTOR TRUCK USE

(Figures from Associated Industries of Massachusetts)

Number of factories answering motor truck questionnaire.....	576	Per cent of factories not using trucks now which would do so in event of higher railroad rates.....	20
Average amount of time saved per shipment over railroad use, hours.....	45	Per cent of factories not using trucks, which have not investigated comparative costs of trucks and other means of transportation.....	90
Average distance of route each way, miles.....	38		
Average tonnage carried per week, tons.....	62		

## MOTOR TRUCK LINES MOVING FREIGHT BETWEEN EIGHT RAILROADS ENTERING CINCINNATI



### HOW MOTOR TRUCKS INCREASED R. R. EFFICIENCY IN CINCINNATI IN 1920

Released for main line movement of railroads 66,862 cars	Main station trackage increased 21.4 per cent
Switching cuts eliminated ..... 300,000	Main station really increased 122,660 sq. ft.
Freight movement advanced .... 52.4 hrs.	Saving in labor through elimination of rehandling of tonnage ..... 30.4 per cent
Platform area increased ..... 14.8 per cent	



# Motor Trucks Save Time and Money Over Rail Service on Short Haul Routes

Comparison of the Cost of Door-to-Door Delivery  
of First Class L. C. L. Freight

(Figures compiled by Francis W. Davis, Consulting Engineer, Pierce-Arrow Motor Car Co.)

TABLE I—FROM BUFFALO TO VARIOUS POINTS

Buffalo to	Miles	*Total Cost by Rail per 100 Lbs.	†Truck Rate per 100 Lbs.	‡Time Saved by Truck Hours
Tonawanda.....	10	.83	.25	46
Niagara Falls.....	26	.87	.35	44
Batavia.....	37	.90	.60	43
Rochester.....	72	.99	.80	63
Jamestown.....	77	1.17	.90	39
Erie.....	92	1.23	1.00	38
Ashtabula.....	129	1.32	1.30	68
Elmira.....	145	1.25	1.40	81
Syracuse.....	154	1.20	1.50	32
Utica.....	203	1.31	2.00	51
Binghamton.....	204	1.36	2.00	51
Pittsburgh.....	241	1.52	2.50	104
Albany.....	308	1.38	3.00	65

TABLE II—FROM VARIOUS POINTS TO NEW YORK CITY

To New York City From	Miles	*Total Cost by Rail per 100 Lbs.	†Truck Rate per 100 Lbs.	‡Time Saved by Truck Hours
New Rochelle, N. Y.....	17	1.03	.25	21
Stamford, Conn.....	34	1.10	.60	19½
Bridgeport, Conn.....	57	1.20	.75	41
New Haven, Conn.....	74	1.23	.80	39½
Hartford, Conn.....	109	1.28	1.10	108
New London, Conn.....	127	1.36	1.30	106
Springfield, Mass.....	150	1.28	1.50	152
Providence, R. I.....	185	1.41	1.90	76
Gloucester, Mass.....	201	1.54	2.00	147
Fall River, Mass.....	220	1.41	2.20	97
Boston, Mass.....	233	1.41	2.40	71
Lowell, Mass.....	259	1.46	2.60	141

\*Total cost by rail per 100 lbs. equals freight rate plus teaming charges both ends (.30) plus cost of extra boxing (.24) plus extra freight charge on increased weight of boxing (17 per cent of freight rate).

†Trucking Association figures (1920).

‡Loading and unloading time of 1 hour plus running time at 10 m. p. h.

Form 2 NATIONAL STANDARD TRUCK COST SYSTEM. TRUCK OWNERS CONFERENCE, INC., CHICAGO, Series 1919			
MONTHLY ANALYSIS OF OPERATION		CAPACITY <u>SE</u>	
**INSERT FIRST MONTH OF FISCAL YEAR IN HEADING OF FIRST COLUMN, ETC.		<u>Feb</u>	
A.	NUMBER OF DAYS OPERATED	<u>28</u>	
B.	NUMBER OF ROUND TRIPS	<u>130</u>	
C.	DELIVERY OR PICK-UP STOPS	<u>274</u>	
D.	TOTAL UNITS <u>Time</u> OUT	<u>301.1</u>	
E.	TOTAL UNITS <u>Time</u> IN	<u>416.8</u>	
F.	MILES TRAVELED	<u>902</u>	
G.	GALLONS OF GASOLINE OR <del>_____</del>	<u>216</u>	
H.	PINTS OF CYLINDER OIL	<u>15</u>	
I.	HOURS AVAILABLE BUT NOT USED	<u>22</u>	
J.	HOURS LOADING	<u>42</u>	
K.	HOURS RUNNING INCLUDING STOPS	<u>272</u>	
L.	HOURS LAID UP FOR REPAIRS	<u>0</u>	
M.	HOURS WITH HELPER	<u>288</u>	
N.	TRAILER DATA	<u>0</u>	
AVERAGES FROM ABOVE			
B1	ROUND TRIPS PER DAY	<u>4.7</u>	
C1	DELIVERY OR PICK-UP STOPS PER DAY	<u>9.7</u>	
D1	TOTAL UNITS <u>Time</u> PER DAY	<u>25.6</u>	
E1	AVERAGE UNITS <u>Time</u> PER TRIP	<u>5.4</u>	
E2	UNIT <u>Time</u> MILE PER DAY	<u>86.9</u>	
F1	MILES TRAVELED PER DAY	<u>32.2</u>	
F2	AVERAGE ROUND TRIP DISTANCE	<u>6.8</u>	
G1	MILES PER GAL. OF GASOLINE <del>_____</del>	<u>4.17</u>	
H1	MILES PER GALLON OF CYLINDER OIL	<u>50.1</u>	
J1	AVERAGE HOURS LOADING PER DAY	<u>1.5</u>	
J2	AVERAGE MINUTES LOADING PER TRIP	<u>19</u>	
K1	AVERAGE HOURS RUNNING INCLUDING STOPS PER DAY	<u>9.7</u>	
K2	AVERAGE HOURS IN SERVICE PER DAY	<u>11.2</u>	
P.	AVERAGE SPEED IN MILES PER HOUR	<u>33</u>	
O.	ESTIMATED RUNNING TIME PER MILE		
R.	ESTIMATED TIME PER CUSTOMER STOP (IN MIN.)		
S.	COST PER DAY OPERATED	<u>20.18</u>	
T.	COST PER MILE	<u>.62</u>	
U.	COST PER UNIT <u>Time</u>	<u>.80</u>	
V.	COST PER UNIT MILE	<u>.374</u>	

**Sample Form  
from  
National Truck  
Cost System**

See outline of how to  
keep motor truck operat-  
ing costs, on opposite  
page.

## Cars and Trucks Lower Packing Costs

Cars and trucks are essential to lowered costs in the packing industry which uses the most up-to-date efficiency methods.

"One salesman with a car will replace two with buggies and still take on additional territory," says an official of Swift & Company. "With the packing industry making its profits on a fraction of a cent per pound, it cannot afford to use old-

fashioned methods of transportation."

Packers are heavy users both of passenger cars and motor trucks. Among the leading fleet users are:

Company	Cars	Trucks
Swift & Co.....	1,750	1,089
Armour & Co.....	1,030	1,200
Morris & Co.....	850	1,300

# National Standard Truck Cost System

(For further details write to Motor Truck Committee,  
National Automobile Chamber of Commerce)

The purpose of this system is to gather within a single cover the complete costs and operation data of one truck for one year; to arrange it in accessible form; and, to make it as simple as possible to operate.

In compiling cost data it is well to remember that the most satisfactory results will be obtained if the costs are distributed evenly over the entire work period. This applies particularly to interest on Investment, Sinking Fund or Depreciation, Tires, and Maintenance and Repair. Interest is paid during the Sinking Fund period. If this period has been established at only a fraction of the life of the truck, costs during the remaining life of the truck will be minus interest and sinking fund charges, and, therefore, cannot fairly be compared with the former costs until a proper adjustment has been made.

For the sake of making monthly or yearly comparison in truck costs, it will also be desirable to distribute tire and repair costs over the entire period rather than lump them in the particular month when they occurred.

## Sinking Fund on Mileage Basis

It is a common practice to think of the life of a truck as a certain number of miles. This mileage is estimated all the way from 25,000 to 150,000 miles. It is natural to suppose that a greater mileage will cause a greater depreciation and, therefore, it ought to be equally natural to figure the depreciation or sinking fund on a mileage basis. Even the mileage basis can be reduced to the yearly basis.

## Shipper's Unit

The total and average loads should be expressed in units most advantageous to the truck owner. The lumber dealer would record the truck work in thousands of feet of lumber hauled, the express company would record its work as packages handled, the coal man in tons of coal hauled, etc. Blanks are left to

be filled in with the most useful unit for each particular truck owner.

## The Unit Mile

The need of a unit to measure truck performance which would test the truck's operating efficiency and be a basis for comparative study of different trucks, or of the same truck at different times, has led to the use of the term "ton-mile."

The unit-mile is defined as the carrying of one unit one mile. It is not dependent on truck capacity. The unit may be tons, gallons, packages, thousand feet, etc.

## Trailers—Their Accounts

When the two-wheeled trailer (or semi-trailer) is drawn by the truck acting as a tractor, if one trailer unit (only) is used, it should be included with the regular truck costs and operating data, quoting trailer as special equipment. If two or more units are used with one tractor unit individual cost accounts should be kept, but operating data should be posted to the tractor sheet.

## Recording Tire Mileages

It is important to keep track of one's truck tires in service, and so have figures really dependable to judge by when trying to make comparisons for the purpose of standardizing or purchasing further equipment.

In addition to the monthly analysis of operation, an illustration of which is given on the opposite page there are several other forms. A form to which the daily service records and cost items are posted for monthly footing (Form 1); an investment chart serving as a basis for fixed expense (Form 3A); a form for computing fixed monthly and yearly expense (Form 3B); a form for accumulating the estimated, or budget, and actual expense by month for one year (Form 3C); a daily service record, to be kept by the driver, giving the fundamental operating data (Form 4); and, a form for keeping a record of all tires used (Form 8).

# Motor Truck Standards of the N. A. C. C.

## New Standards for Body Weight Allowances, Gross Weight, Chassis, Body and Freight Load, and the Standards Committee's Recommendations on Speeds.

(Adopted by motor truck members of the National Automobile Chamber of Commerce, in a general session held in the Chamber, at New York, on Thursday, Oct. 7, 1920.)

Under the new standards, Demonstration Charges for commercial vehicles embodied in Standards adopted in 1912, are eliminated.

The recommendations of the Standards Committee follow:

**STANDARD SPEED RATING.** We recommend that the present table (1912 Standards) be eliminated and that the following table be adopted:

Gross Weight, Chassis, Body and Freight Load	Speed Miles per Hour
Pneumatic tires up to 28,000 lbs.	25
Solid rubber tires, up to 4,000 lbs.	25
8,000 "	20
12,000 "	18
16,000 "	16
20,000 "	15
24,000 "	15
26,000 "	15
28,000 "	15

**NOTE**—These speed ratings should be recognized by the manufacturer as the maximum and not exceeded under any conditions. The manufacturer should stamp on the truck caution plate the actual maximum speed with load for which the truck is built and beyond which the truck is not guaranteed.

**STANDARD CAUTION PLATE FOR MOTOR TRUCKS.** Committee recommends that the present form of plate should be retained, and that the six foot-notes should be retained with the exception of the note headed, "Speed Rating" which should be revised to read as follows: "The figures given in the table headed 'Standard Speed Ratings for Motor Trucks' should be recognized by the

manufacturer as the maximum and not exceeded under any condition. Manufacturer should stamp on the truck caution plate the actual maximum speed with load for which the truck was built and beyond which the truck is not guaranteed."

As stated above truck manufacturers should be responsible for six of the weights which are called for on this plate, as follows:

**Freight load capacity—Standard.**

**Body weight allowance—Standard.**

**Weight of chassis—Standard—Actual.**

**Total weight, chassis body and load—Standard—Actual.**

The truck manufacturer, his distributor, dealer, or agent should be made responsible to see that the body is weighed and that the plate is stamped:

**Freight load capacity—Actual.**

**Body weight allowance—Actual.**

**STANDARD BODY WEIGHT ALLOWANCES FOR MOTOR TRUCKS.**

We recommend that the present table (1912 Standards) be eliminated and that the following table be adopted:

Load Tons	Body Weight Allowance, Pounds
1	.....1200
1½	.....1500
2	.....1500
2½	.....2000
3	.....2000
3½	.....2500
4	.....2500
5 ton and over	.....2500

We recommend that no change be made in the note which now accompanies the table on standard body weight allowances.

# Dealers and Service Stations

(Compiled as of Mar. 1, 1921, by Chilton Automobile Trade List)

State	Passenger			Charg-			Number of
	Car Dealers	Trucks Dealers	Garages	Repair Shops	Supply Dealers	Ing Stations	
Alabama.....	313	199	270	355	396	42	561
Arizona.....	136	110	151	185	200	24	263
Arkansas.....	304	215	298	346	400	55	526
California.....	1,588	944	1,703	2,467	2,302	147	3,768
Colorado.....	493	372	537	637	640	59	901
Connecticut.....	402	245	437	507	647	28	949
Delaware.....	80	49	90	114	107	6	157
District of Columbia.....	80	39	66	136	120	8	223
Florida.....	335	214	374	451	460	60	659
Georgia.....	536	333	451	578	642	71	996
Idaho.....	237	168	209	269	272	25	363
Illinois.....	2,227	1,342	2,443	3,174	3,343	335	4,461
Indiana.....	1,210	722	1,182	1,593	1,779	188	2,414
Iowa.....	1,642	1,103	1,605	1,906	1,943	177	2,577
Kansas.....	1,250	696	1,248	1,534	1,555	124	2,227
Kentucky.....	483	311	490	598	662	85	869
Louisiana.....	244	169	210	347	308	18	485
Maine.....	283	153	348	407	437	30	591
Maryland.....	363	251	389	513	540	29	741
Massachusetts.....	778	469	949	1,227	1,463	72	2,088
Michigan.....	1,176	757	1,200	1,465	1,635	157	2,200
Minnesota.....	1,186	779	1,159	1,268	1,389	156	1,823
Mississippi.....	248	185	215	331	314	22	451
Missouri.....	1,072	667	1,101	1,422	1,407	126	2,054
Montana.....	301	228	323	360	392	37	492
Nebraska.....	1,054	715	986	1,205	1,181	92	1,632
Nevada.....	56	42	60	82	70	11	103
New Hampshire.....	156	86	215	229	245	14	313
New Jersey.....	717	464	1,031	1,256	1,245	87	1,896
New Mexico.....	118	80	122	135	140	14	177
New York.....	2,129	1,312	3,063	3,725	4,092	191	5,879
North Carolina.....	530	355	474	543	572	85	771
North Dakota.....	536	345	476	537	603	59	810
Ohio.....	2,087	1,272	2,101	2,845	2,962	367	4,023
Oklahoma.....	817	521	710	800	903	101	1,296
Oregon.....	375	269	366	454	455	38	701
Pennsylvania.....	2,458	1,662	3,130	3,973	4,148	271	5,617
Rhode Island.....	101	57	127	194	217	9	332
South Carolina.....	346	219	260	372	353	18	547
South Dakota.....	582	417	507	590	671	57	850
Tennessee.....	348	277	314	433	448	71	642
Texas.....	1,270	845	1,347	1,607	1,694	241	2,446
Utah.....	139	105	125	187	181	20	263
Vermont.....	143	113	191	202	240	17	287
Virginia.....	457	345	364	531	539	73	786
Washington.....	646	466	618	782	772	50	1,148
West Virginia.....	325	228	334	412	435	39	558
Wisconsin.....	1,426	952	1,412	1,737	1,782	184	2,341
Wyoming.....	110	81	105	114	115	14	159
Total .....	33,893	21,948	35,887	45,135	47,416	4,204	66,416

# 9,211,295 Motor 1920 Registrations Show Gain of

Largest State Registration, New York, 670,290.

Largest State Gross Gain, Ohio, 110,359.

Greatest State Percentage Gain, West Virginia, 61%.

Revenues Total \$102,034,000

## TABULATION BY STATES OF MOTOR VEHICLE REGISTRATIONS,

(Figures from Bureau of Public Roads,

State	Passenger Cars	Motor Trucks and Commercial Vehicles	Motor-Cycles	Registration or Transfers	Owners' and Chauffeurs' Licenses	Manufacturers' and Dealers' Licenses
Alabama.....	61,941	12,696	1,035	1,200	3,413	1,411
Arizona.....	29,868	4,733	542	1,816	417	251
Arkansas.....	59,082	(1)	(2)	333	478	548
California.....	534,814	34,078	20,047	126,827	865,699	....
Colorado.....	121,506	7,749	3,420	11,509	131,449	2,822
Connecticut.....	95,123	24,011	6,543 (3)	20,156	139,843	814
Delaware.....	18,300	(1)	674	(1)	22,023	606
District of Columbia...	29,131 (14)	5,030 (15)	2,648	1,189	17,767	927
Florida.....	63,466	10,448	1,275	1,544	2,190	719
Georgia.....	134,000	12,000	1,382	2,894	5,055	976
Idaho.....	50,861	(1)	764	851	802	581
Illinois.....	504,250	64,674	10,569	(1)	566,701	6,239
Indiana.....	300,226	32,841	8,823	(1)	9,758	1,500
Iowa.....	407,578	29,800	4,000	90,000	3,870	2,575
Kansas.....	294,159	(1)	3,605	12,598	....	2,411
Kentucky.....	99,437	13,246	1,543	(1)	5,000	1,016
Louisiana.....	66,000	7,000	512	602	....	515
Maine.....	55,395	7,512	1,566	(1)	78,539	637
Maryland.....	87,625 (7)	15,216 (8)	5,222	9,960	54,269	4,368
Massachusetts.....	223,112	51,386	15,143	30,000	361,546	2,011
Michigan.....	366,946	45,771	8,011	35,640	195,477	1,638
Minnesota (9).....	324,166 (9)	(1)	7,546	5,716	8,920	641
Mississippi.....	63,721	4,765	194	834	63,267	260

(1) Included under passenger cars.

(2) Registration not required.

(3) Includes 2,178 side cars.

(5) To pay interest and provide sinking funds for state highway bond issue; remainder for state highway work.

(6) Distributed to counties but expended under supervision of State Highway Department; 2½ per cent of grand total to State Highway Department for expenses.

(7) Does not include 13,500 non-resident registrations.

(8) Includes 4,022 buses and vehicles used for hire.

(9) Registrations cover a period of three years ending December 31, 1920. Number of cars given are for total period; revenues are for calendar year only.

(Tabulation continued

# Vehicles in U. S. A.

1,652,447 Automobiles or 22 Per Cent

State Leading in Car Density, South Dakota,  
1 automobile to 5 persons.

Population per Automobile, U. S., 1920- 11.

Population per Automobile, U. S., 1919- 14.

## LICENSES, REVENUES FOR CALENDAR YEAR 1920.

U. S. Department of Agriculture)

Motor-Vehicle Revenues Available for Road Work						State
Total Gross Motor-Vehicle Registration and License Revenues	By or Under State Highway Department	Under Direction of Local Authorities	Average Gross Revenue Return per Motor Car Registration	Population per Automobile	Automobiles per Mile of Public Rural Road	
\$835,178.00	\$668,142.40	.....	\$11.23	31	1.3	Alabama
192,368.92	189,868.92	.....	5.55	10	2.9	Arizona
591,464.50	550,000.00	.....	10.01	30	1.2	Arkansas
5,554,265.00	2,777,132.50	2,777,132.50	9.76	6	9.3	California
819,872.74	375,699.01	375,699.01	6.34	7	3.2	Colorado
1,852,591.00	1,852,591.00	.....	15.55	12	8.5	Connecticut
329,980.00	329,980.00	.....	18.03	12	5.0	Delaware
266,285.00	.....	.....	7.78	13	.....	District of Columbia
554,695.14	554,695.14	.....	7.63	13	4.1	Florida
1,919,338.92	1,851,540.82	.....	13.14	20	1.8	Georgia
882,034.51	220,508.65	661,525.86	17.34	8	2.0	Idaho
5,915,700.17	5,915,700.17 (5)	.....	10.40	11	5.9	Illinois
2,029,694.00	1,902,363.00	.....	6.09	9	4.5	Indiana
7,507,202.08	7,244,450.00 (6)	.....	17.16	5	4.2	Iowa
1,419,345.50	.....	1,327,308.00	4.83	6	2.6	Kansas
815,549.31	815,549.31	.....	7.24	21	1.9	Kentucky
390,000.00	.....	350,000.00	5.34	25	3.0	Louisiana
818,755.50	818,755.50 (5)	.....	13.02	12	2.7	Maine
2,124,924.84	1,537,540.00	384,385.00	20.53	14	6.2	Maryland
3,860,231.70	3,506,000.00	.....	14.07	14	14.7	Massachusetts
5,754,900.96	2,745,715.10	2,737,138.35	13.94	9	5.6	Michigan
143,794.50	143,794.50	.....	.44	7	3.5	Minnesota
800,000.00 (10)	750,000.00 (10)	.....	11.68	26	1.5	Mississippi

(10) Approximate.

(11) Does not include 2,359 non-resident and neutral zone cars.

(12) Does not include 2,683 state, county and city cars.

(13) Does not include 1,287 exempt cars.

(14) Does not include 14,797 non-resident cars.

(15) Does not include 1,790 non-resident trucks.

(16) Data covers period of 18 months, ending December 31, 1920.

on two succeeding pages)



## Motor Vehicle Registrations,

(Continued from

State	Passenger Cars	Motor Trucks and Commercial Vehicles	Motor-Cycles	Registration or Transfers	Owners' and Chauffeurs' Licenses	Manufacturers' and Dealers' Licenses
Missouri.....	297,008	(1)	3,954	16,400	323,799	2,520
Montana.....	59,450	1,200	675	862	1,490	429
Nebraska.....	200,000	19,000	2,100	(1)	....	3,000
Nevada.....	10,464	(1)	125	(1)	....	75
New Hampshire.....	30,240(11)	4,440	2,542	4,475	43,993	252
New Jersey.....	204,125	23,612	11,041	41,351	294,438	2,671
New Mexico.....	22,100	(1)	219	(1)	....	175
New York.....	521,417	148,873	29,453	....	358,022	....
North Carolina.....	127,405	13,455	1,418	....	....	....
North Dakota.....	90,840	(1)	898	10,150	....	....
Ohio.....	538,090(12)	83,300	23,300	(1)	....	24,244
Oklahoma.....	204,300	8,580	1,360	(1)	....	1,202
Oregon.....	103,790	(1)	3,434	16,568	142,962	751
Pennsylvania.....	521,835	48,329	23,981	57,712	261,183	13,154
Rhode Island.....	40,914	9,563	2,260	5,790	58,710	231
South Carolina.....	93,843	(1)	908	1,933	....	1,541
South Dakota.....	112,589	7,806	777	2,545	....	1,071
Tennessee.....	90,214	11,638	1,151	5,754	....	564
Texas.....	427,693	(1)	4,290	121,280	23,385	3,624
Utah.....	37,060	5,556	1,114	(1)	1,120	235
Vermont.....	28,709	2,916	946	3,290	39,201	192
Virginia.....	101,800	13,670	2,233	(1)	5,514	2,972
Washington.....	144,131(13)	29,789	4,915	13,337	....	3,977
West Virginia.....	69,862	10,802	1,659	(1)	10,552	886
Wisconsin.....	277,093	16,205	8,002	(1)	....	1,946
Wyoming.....	23,925	(1)	327	(1)	....	201
<b>Totals and Averages</b>	<b>8,369,605</b>	<b>841,690</b>	<b>238,146</b>	<b>718,116</b>	<b>4,100,852</b>	<b>99,379</b>

(11) Does not include 2,359 non-resident and neutral zone cars.

(12) Does not include 2,683 state, county and city cars.

(13) Does not include 1,287 exempt cars.

(1) Included under passenger cars.

### **U. S. Commissioner of Education P. P. Claxton, says:**

"If there were more good roads and more auto buses in our rural counties, the consolidation of schools could go on apace with a reduction of 50 to 80 per cent in the number of school houses. One third of the one-room teachers could be dismissed without over-burdening the better prepared and better paid consolidated school teacher."

## Licenses, and Revenues for 1920

(two preceding pages)

Motor-Vehicle Revenues Available for Road Work						
Total Gross Motor-Vehicle Registration and License Revenues	By or Under State Highway Department	Under Direction of Local Authorities	Average Gross Revenue Return per Motor Car Registration	Population per Automobile	Automobiles per Mile of Public Rural Road	State
2,111,696.85	2,111,696.85	.....	7.11	11	3.1	..... Missouri
416,245.00	280,557.37	93,519.12	6.86	9	1.5	..... Montana
2,800,000.00(10)	2,100,000.00(10)	700,000.00(10)	12.78	6	2.7	..... Nebraska
103,318.33	103,318.33(5)	.....	9.87	7	.9	..... Nevada
654,702.04	580,342.23	.....	18.69	13	2.5	..... New Hampshire
3,503,936.76	3,441,770.32	.....	15.39	14	15.3	..... New Jersey
200,000.00	180,000.00	.....	9.05	16	.6	..... New Mexico
8,511,597.00	6,383,697.75	2,127,899.25	10.16	15	8.3	..... New York
1,785,000.00	1,785,000.00	.....	10.26	18	2.7	..... North Carolina
691,500.00	274,257.70	274,257.69	7.61	7	1.3	..... North Dakota
6,400,000.00(10)	3,100,000.00(10)	3,100,000.00(10)	10.30	9	7.2	..... Ohio
2,500,000.00(10)	2,294,404.67(6)	.....	11.74	10	2.0	..... Oklahoma
2,085,168.50	1,469,145.28	489,715.10	20.09	7	2.8	..... Oregon
8,090,873.04	8,090,873.04	.....	14.01	15	6.2	..... Pennsylvania
531,462.75	468,162.75	.....	10.51	12	23.3	..... Rhode Island
527,868.13	92,529.19	329,765.31	5.63	18	2.2	..... South Carolina
784,000.00(10)	.....	700,000.00(10)	5.51	5	1.2	..... South Dakota
1,215,776.04	571,816.72	571,816.72	11.94	23	2.2	..... Tennessee
3,510,355.97	1,468,474.63	1,715,416.13	8.21	11	3.3	..... Texas
350,933.29	325,000.00(5)	.....	8.23	11	4.8	..... Utah
555,422.38	515,736.76 *	.....	14.40	11	2.2	..... Vermont
1,822,736.16	1,730,931.18	.....	15.70	20	2.1	..... Virginia
2,828,896.10	1,800,000.00(10)	1,000,000.00(10)	16.15	8	4.1	..... Washington
1,280,193.28	1,096,662.42	.....	15.87	18	2.5	..... West Virginia
3,127,073.00	2,250,000.00	750,000.00	10.67	9	3.8	..... Wisconsin
267,179.35	267,179.35 (5)	.....	11.16	8	1.6	..... Wyoming
<b>\$102,034,106.26</b>	<b>\$77,531,582.57</b>	<b>\$20,465,578.04</b>	<b>11.08</b>	<b>11</b>	<b>3.8</b>	

(5) To pay interest and provide sinking funds for state highway bond issue; remainder for state highway work.

(6) Distributed to counties but expended under supervision of State Highway Department; 2½ per cent of grand total to State Highway Department for expenses.

(10) Approximate.

### W. C. Bresler, President, Central R. R. of N. J., says:

"Automobiles augment and extend steam passenger service and make it possible for persons to live beyond the immediate territory which a steam railroad serves."

### Mass. Dept. of Education (Bulletin 115) says:

"The motor bus is fast replacing the horse-drawn vehicle because of its superiority in regularity, speed, and general comfort."

# Motor Vehicle Registration† 1915-1920

(Figures from U. S. Bureau of Public Roads)

	1915	1916	1917	1918	1919	1920
Alabama.....	11,634	21,636	32,873	46,171	58,898	74,637
Arizona.....	7,753	12,300	19,890	23,905	28,979	34,601
Arkansas.....	8,021	15,000	28,693	41,458	49,450	59,082
California.....	163,797	232,440	306,916	407,761	x477,450	568,892
Colorado.....	28,894	43,296	87,460	83,244	104,865	129,255
Connecticut.....	41,121	56,048	74,645	86,067	102,410	119,134
Delaware.....	5,052	7,102	10,700	12,965	16,152	18,300
District of Columbia.....	8,009	13,118	15,493	30,490	c35,400	34,161
Florida.....	10,850	20,718	*27,000	54,186	55,400	73,914
Georgia.....	25,000	46,025	70,324	104,676	137,000	146,000
Idaho.....	7,071	12,999	24,731	32,289	42,220	50,861
Illinois.....	180,832	248,429	340,292	389,620	478,438	568,924
Indiana.....	96,915	139,065	192,194	227,160	227,255	333,067
Iowa.....	145,109	198,587	254,462	278,313	363,079	437,378
Kansas.....	72,520	112,122	159,343	189,163	227,752	294,159
Kentucky.....	19,500	31,500	47,420	65,884	90,008	112,683
Louisiana.....	11,380	17,000	28,394	40,000	51,000	73,000
Maine.....	21,545	30,972	41,499	40,372	53,425	62,907
Maryland.....	31,047	44,245	60,943	74,666	95,634	102,841
Massachusetts.....	102,633	136,809	174,274	193,497	227,182	274,498
Michigan.....	114,845	160,652	247,006	262,125	325,813	412,717
Minnesota.....	93,269	b46,000	a54,000	204,458	259,743	324,166
Mississippi.....	9,669	25,000	36,600	48,400	45,030	68,486
Missouri.....	76,462	103,587	147,528	188,040	244,363	297,008
Montana.....	14,540	25,105	42,749	51,053	59,324	60,650
Nebraska.....	59,000	101,200	148,101	173,374	200,000	219,000
Nevada.....	2,009	4,919	7,160	8,159	9,305	10,464
New Hampshire.....	13,449	17,508	22,267	24,817	31,625	34,680
New Jersey.....	81,848	109,414	141,918	155,519	190,873	227,737
New Mexico.....	5,100	8,228	14,086	17,647	18,082	22,100
New York.....	255,242	314,222	406,016	459,292	566,511	670,290
North Carolina.....	21,000	33,904	55,950	72,313	109,017	140,860
North Dakota.....	24,908	40,446	62,993	71,678	82,885	90,840
Ohio.....	181,332	252,431	346,772	412,775	511,031	621,390
Oklahoma.....	25,032	52,718	100,199	121,500	144,500	212,880
Oregon.....	23,585	33,917	48,632	63,324	83,332	103,890
Pennsylvania.....	160,137	230,578	325,153	394,186	482,117	570,164
Rhode Island.....	16,362	21,406	37,046	35,218	44,833	50,477
South Carolina.....	15,000	*25,000	38,332	55,492	79,143	93,843
South Dakota.....	28,724	44,271	67,158	90,521	104,628	120,395
Tennessee.....	27,618	*30,000	48,000	63,000	80,422	101,852
Texas.....	40,000	*125,000	192,961	251,118	331,310	427,693
Utah.....	9,177	13,507	24,076	32,273	35,236	42,616
Vermont.....	11,499	15,671	21,633	22,553	26,807	31,625
Virginia.....	21,357	35,426	55,661	72,228	94,100	115,470
Washington.....	38,823	60,734	91,337	117,278	148,775	173,920
West Virginia.....	13,279	20,571	31,300	58,750	50,203	60,664
Wisconsin.....	79,741	115,645	158,637	196,253	236,290	293,298
Wyoming.....	3,976	7,125	12,523	16,200	21,371	33,926
<b>Total.....</b>	<b>2,445,664</b>	<b>3,512,996</b>	<b>4,983,340</b>	<b>6,146,617</b>	<b>7,558,848</b>	<b>9,211,295</b>

†Does not include motorcycles, or dealers' and manufacturers' licenses.

\*Estimated.

†Total registered under perennial system.

aCars registered 1917.

bCars registered 1916.

zCars registered 1915.

xDoes not include 10,000 cars operated under exempt licenses.

cDoes not include non-resident registrations.

# Total Gross Motor Vehicle Revenues 1915-1920

(Figures from Bureau of Public Roads, U. S. Department of Agriculture)

	1915	1916	1917	1918	1919	1920
Alabama.....	\$ 180,744	\$203,655	\$217,700	\$470,274	\$541,348.70	\$835,178.00
Arizona.....	45,579	73,000	117,643	142,288	164,755.68	192,368.92
Arkansas.....	80,551	150,000	205,176	410,649	500,970.00	591,464.50
California.....	2,027,432	2,192,699	2,846,030	3,524,036	4,468,721.67	5,554,265.00
Colorado.....	120,801	197,795	296,808	379,559	490,432.31	819,872.74
Connecticut.....	536,970	768,728	1,080,757	1,285,164	1,516,136.01	1,852,591.00
Delaware.....	55,596	85,249	133,883	232,449	286,333.00	329,980.00
District of Columbia.....	29,396	47,624	55,928	220,753	274,184.00	266,285.00
Florida.....	*60,000	127,176	*170,000	345,775	401,317.40	554,695.14
Georgia.....	125,000	154,735	229,653	331,816	429,848.00	1,919,338.92
Idaho.....	121,259	213,758	412,641	576,555	729,702.94	882,034.51
Illinois.....	924,906	1,236,566	1,588,835	2,764,330	3,262,714.00	5,915,700.17
Indiana.....	587,318	817,285	1,096,159	1,293,128	1,558,740.50	2,029,694.00
Iowa.....	1,533,054	1,776,170	2,249,655	2,547,596	3,077,445.81	7,507,202.08
Kansas.....	387,588	585,762	830,878	978,837	1,150,000.00	1,419,345.50
Kentucky.....	117,117	184,741	287,314	402,250	565,520.21	815,549.31
Louisiana.....	75,600	112,000	166,835	240,000	306,000.00	390,000.00
Maine.....	268,412	363,562	491,696	570,171	685,570.25	818,755.50
Maryland.....	386,565	565,302	807,395	1,189,984	1,776,410.22	2,121,924.84
Massachusetts.....	1,235,724	1,602,958	1,969,994	2,184,821	2,667,853.85	3,860,231.70
Michigan.....	373,833	1,739,344	2,471,271	2,875,266	3,719,433.39	5,754,900.96
Minnesota.....	*160,540	82,469	100,000	1,076,811	218,469.50	143,794.50
Mississippi.....	76,700	175,000	250,000	335,000	400,000.00	800,000.00
Missouri.....	323,289	439,315	617,942	1,394,762	1,725,076.70	1,162,245.00
Montana.....	33,120	52,768	290,936	350,914	407,848.00	2,111,696.85
Nebraska.....	*183,000	311,334	451,303	536,897	304,450.55	2,800,000.00
Nevada.....	7,875	20,116	31,166	31,083	37,550.75	103,318.33
New Hampshire.....	257,776	344,434	425,305	509,335	599,621.25	654,702.04
New Jersey.....	1,062,923	1,406,806	1,923,164	2,431,757	2,931,904.15	3,503,936.76
New Mexico.....	29,625	47,865	80,843	105,631	111,150.00	200,000.00
New York.....	1,991,181	2,658,042	4,284,144	4,945,298	5,984,659.50	8,511,597.00
North Carolina.....	123,000	206,101	321,923	394,739	1,313,950.73	1,785,000.00
North Dakota.....	79,245	125,283	211,536	471,429	636,842.40	691,500.00
Ohio.....	984,622	1,286,405	1,766,427	2,125,426	2,593,000.00	6,400,000.00
Oklahoma.....	154,892	555,011	853,659	1,102,380	1,178,130.27	2,500,000.00
Oregon.....	108,881	146,232	196,787	461,422	602,239.00	2,085,168.50
Pennsylvania.....	1,665,276	2,325,057	3,268,025	4,048,186	5,090,921.00	8,090,873.04
Rhode Island.....	206,440	264,737	346,117	385,608	477,223.25	531,462.75
South Carolina.....	15,000	10,000	113,557	300,217	389,034.68	527,868.13
South Dakota.....	*180,000	140,746	210,592	282,742	322,340.50	784,000.00
Tennessee.....	*34,000	186,953	322,200	390,000	585,181.95	1,215,776.04
Texas.....	20,000	20,000	858,978	2,039,589	2,624,334.29	3,510,355.97
Utah.....	*60,000	93,494	170,707	229,203	291,325.96	350,933.29
Vermont.....	218,480	297,992	363,541	398,856	460,190.87	555,422.38
Virginia.....	176,875	271,266	518,566	684,636	900,000.00	1,822,736.16
Washington.....	238,717	350,052	519,526	875,391	2,325,323.53	2,828,896.10
West Virginia.....	128,952	198,436	359,339	447,705	1,008,083.31	1,280,193.28
Wisconsin.....	431,977	615,721	861,278	2,076,701	2,502,852.00	3,127,073.00
Wyoming.....	19,880	35,625	57,421	80,000	102,114.50	267,179.35
<b>Total.....</b>	<b>\$18,245,711</b>	<b>\$25,865,370</b>	<b>\$37,501,233</b>	<b>\$51,477,417</b>	<b>\$64,697,255.58</b>	<b>\$102,034,106.28</b>

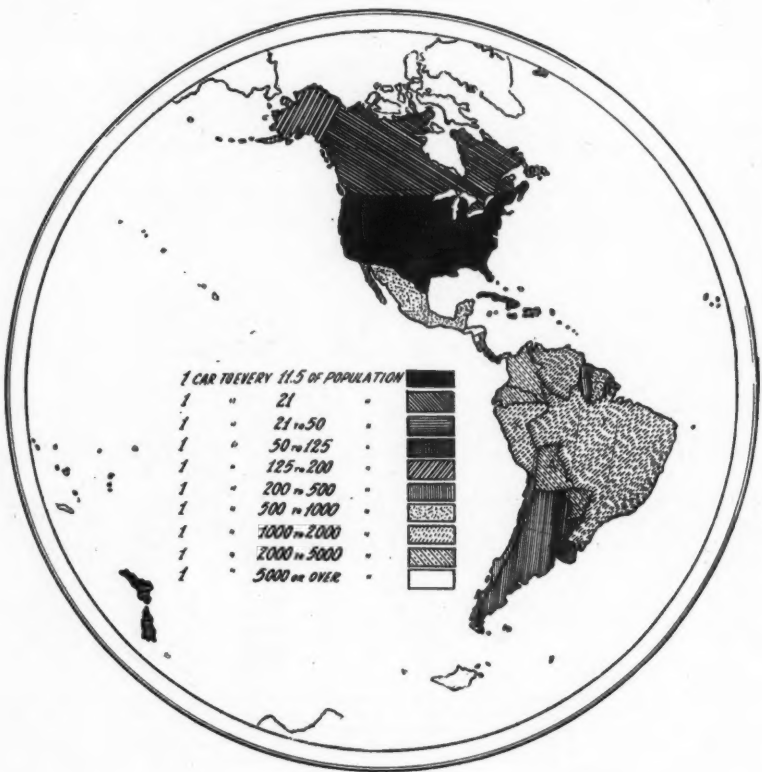
\*Estimated.

†Registration law declared unconstitutional.

# World Registration of

83 Per Cent of All Cars

Persons			Persons				
Country	Population	Regis. Per Auto	Country	Population	Regis. Per Auto		
Alaska.....	64,356	400	161	Austria.....	6,500,000	19,300	337
Arabia.....	3,000,000	150	20,000	Azores & Madeira Is.	242,611	80	3,033
Algeria.....	5,600,000	9,000	622	Barbados.....	192,000	700	274

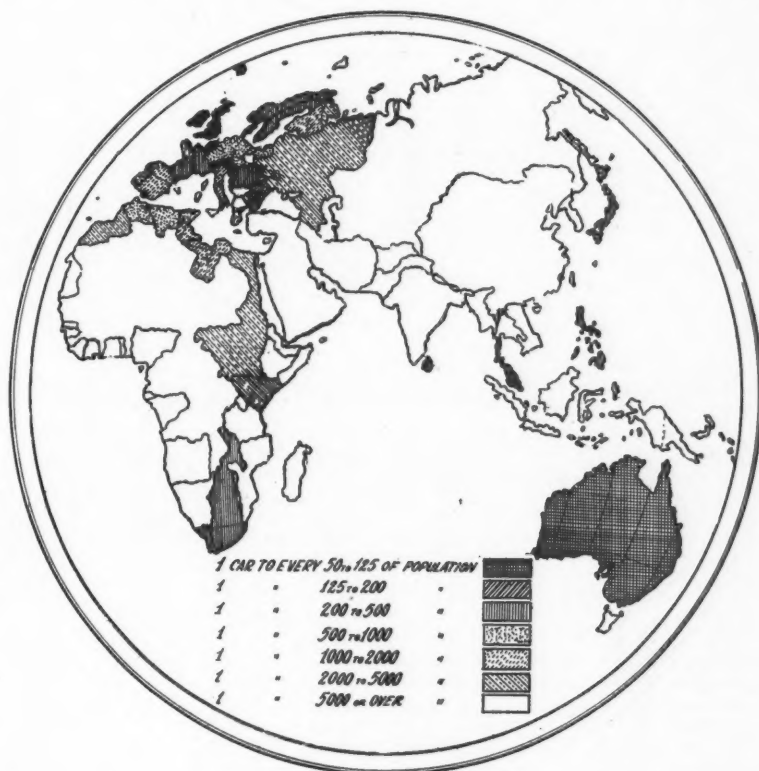


Argentina.....	8,300,000	28,000	296	Belgium.....	7,500,000	13,000	576
Australia.....	5,000,000	78,000	64	Bolivia.....	3,000,000	600	5,000
<i>Note—Registration figures from special Consular Reports, U. S. Bureau of Foreign and Domestic Commerce, American Exporter, General Motors Corp. data, compiled by N. A. C. C. Population figures from U. S. Bureau of Census, and World Almanac.</i>				Brazil.....	22,000,000	14,700	1,497
				British East Africa.	2,800,000	900	3,111
				British Guiana....	311,000	800	389
				British Honduras...	42,000	60	700

# Automobiles Totals 10,922,278

and Trucks Are In U. S. A.

Persons				Persons			
Country	Population	Regis.	Per Auto	Country	Population	Regis.	Per Auto
British South Africa	5,973,000	29,000	206	Curacao.....	30,000	150	200
British West Africa	23,108,000	2,000	11,554	Denmark.....	3,000,000	7,800	385
Bulgaria.....	4,500,000	3,200	1,406	Dominican Republic	700,000	1,500	467
Canada.....	8,370,000	403,111	21	Dutch East Indies..	48,000,000	15,500	3,097



Ceylon.....	4,700,000	3,500	1,343	Dutch Guiana.....	91,622	120	764
Chile.....	4,000,000	8,800	455	Ecuador.....	1,300,000	450	2,889
China.....	400,000,000	6,000	66,667	Egypt.....	12,800,000	5,000	2,560
Chosen (Korea)....	17,500,000	80	218,750	Fed. Malay States..	1,036,999	4,000	259
Colombia.....	5,475,000	1,200	4,563	Finland.....	3,330,000	2,000	1,665
Costa Rica.....	441,000	400	1,103	French Indo-China.	16,990,229	2,000	8,495
Cuba.....	3,000,000	31,800	94				

(Continued on following page)

## World Registration Totals 10,922,278

(Continued from two preceding pages)

Country	Population	Regis.	Persons Per Auto	Country	Population	Regis.	Persons Per Auto
France.....	41,500,000	202,500	205	Norway.....	2,700,000	12,100	223
French Guiana.....	49,000	100	490	Nicaragua.....	600,000	200	3,000
Germany.....	55,000,000	75,000	733	New Zealand.....	1,226,000	30,000	41
Gt. Britain & Ireland.....	46,080,000	420,000	110	Panama.....	401,428	1,500	268
Gibraltar.....	16,000	90	178	Paraguay.....	1,000,000	350	2,857
Greece.....	5,000,000	2,000	2,500	Peru.....	3,530,000	3,200	1,103
Guadeloupe.....	212,000	300	707	Philippine Islands.....	9,000,000	15,709	573
Guatemala.....	2,000,000	350	5,714	Porto Rico.....	1,295,826	5,500	236
Haiti.....	2,000,000	400	5,000	Portugal.....	6,000,000	8,000	750
Hawaii.....	255,912	1,210	212	Portuguese Africa.....	3,120,000	220	14,181
Honduras.....	553,446	125	4,428	Persia.....	10,000,000	200	50,000
Hongkong.....	440,000	550	800	Rumania.....	15,000,000	2,500	6,000
Iceland & Faroe Is.....	86,500	130	665	Russia in Europe.....	142,000,000	30,000	4,733
India.....	315,156,000	25,550	12,333	Russia in Asia.....	25,000,000	3,200	7,813
Italy.....	40,000,000	35,550	1,125	Salvador.....	1,300,000	100	13,000
Jamaica.....	891,000	2,130	418	Siam.....	8,150,000	1,300	6,269
Japan.....	58,000,000	11,750	4,936	Spain.....	20,500,000	17,650	1,161
Jugoslavia.....	14,500,000	2,000	7,250	Straits Settlements.....	846,000	4,500	188
Liberia.....	2,000,000	8	250,000	Sweden.....	5,814,000	12,000	485
Madeira Islands.....	200,000	70	2,857	Switzerland.....	4,000,000	25,500	151
Malta, Gozo and Cyprus.....	224,000	140	1,600	Trinidad & Tobago.....	352,000	1,200	293
Madagascar.....	3,512,690	180	19,515	Tripoli.....	1,000,000	700	1,429
Martinique.....	193,087	500	386	Tunis.....	1,800,000	1,000	1,800
Mexico.....	16,000,000	18,000	889	Turkey.....	8,000,000	62,000	12,903
Morocco.....	4,500,000	1,000	4,500	U. S. of America.....	105,683,108	9,211,295	11
Netherlands.....	6,600,000	20,000	330	Uruguay.....	1,400,000	11,000	127
Newfoundland.....	259,000	500	518	Venezuela.....	2,848,000	2,800	1,017
				Virgin Islands.....	26,051	250	104

## States Rated According to Total Registration

New York.....	670,290	Oregon.....	103,790
Ohio.....	621,390	Maryland.....	102,841
Pennsylvania.....	570,164	Tennessee.....	101,852
Illinois.....	568,924	South Carolina.....	93,843
California.....	568,892	North Dakota.....	90,840
Iowa.....	437,378	West Virginia.....	80,664
Texas.....	427,693	Alabama.....	74,637
Michigan.....	412,717	Florida.....	73,914
Indiana.....	333,067	Louisiana.....	73,000
Minnesota.....	324,166	Mississippi.....	68,486
Missouri.....	297,008	Maine.....	62,907
Kansas.....	294,159	Montana.....	60,650
Wisconsin.....	293,298	Arkansas.....	59,082
Massachusetts.....	274,498	Idaho.....	50,861
New Jersey.....	227,737	Rhode Island.....	50,477
Nebraska.....	219,000	Utah.....	42,616
Oklahoma.....	212,880	New Hampshire.....	34,680
Washington.....	173,920	Arizona.....	34,601
Georgia.....	146,000	District of Columbia.....	34,161
North Carolina.....	140,860	Vermont.....	31,625
Colorado.....	129,255	Wyoming.....	23,926
South Dakota.....	120,395	New Mexico.....	22,100
Connecticut.....	119,134	Delaware.....	18,300
Virginia.....	115,470	Nevada.....	10,464
Kentucky.....	112,683		



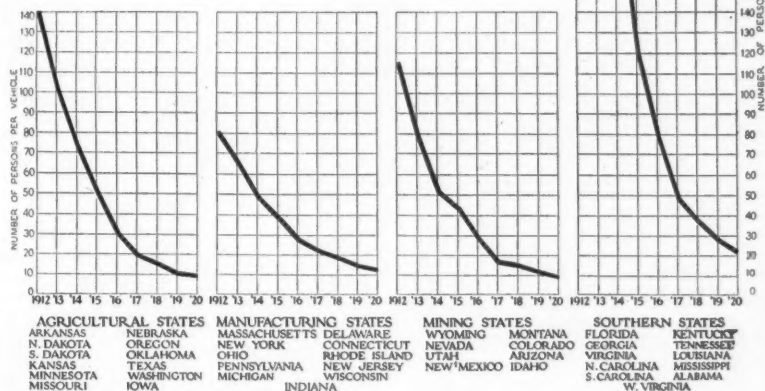
# Ratio of Automobiles to Population

Southern States Show Bigger Rate of Car Increase Per Capita

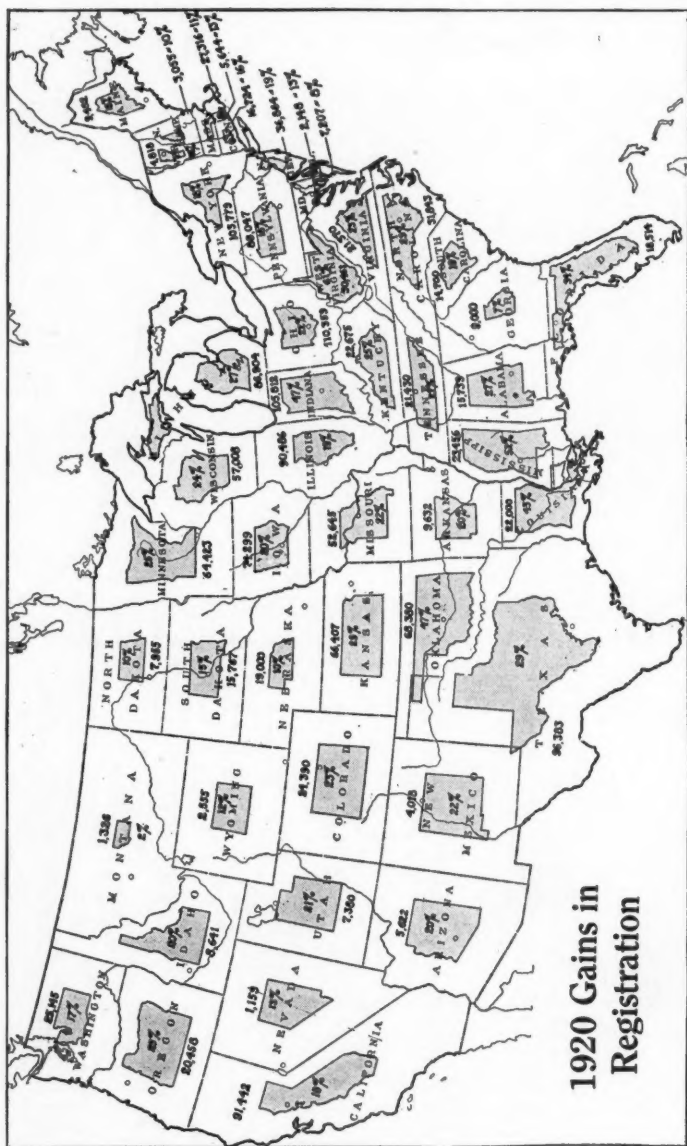
South Dakota Leads With One Motor Vehicle to Every 5 Persons

Farming States Average 1 Car to Every 10 Persons

(Chart from Automotive Industries)



State	Motor Vehicle Registration	Number of People to Each Motor Vehicle	State	Motor Vehicle Registration	Number of People to Each Motor Vehicle
South Dakota.....	120,395	5.28	Connecticut.....	119,134	11.59
Iowa.....	437,378	5.50	Rhode Island.....	50,477	11.97
Nebraska.....	219,000	5.91	Maine.....	62,907	12.20
Kansas.....	294,159	6.01	Delaware.....	18,300	12.18
California.....	568,892	6.02	New Hampshire.....	34,680	12.78
North Dakota.....	90,840	7.11	District of Columbia..	34,151	12.81
Colorado.....	129,255	7.27	Florida.....	73,914	13.07
Minnesota.....	324,166	7.36	New Jersey.....	227,737	13.85
Nevada.....	10,464	7.39	Massachusetts.....	274,498	14.04
Oregon.....	103,790	7.55	Pennsylvania.....	102,841	14.09
Washington.....	173,920	7.79	New York.....	570,164	15.29
Wyoming.....	23,926	8.13	New Mexico.....	670,290	15.49
Idaho.....	50,861	8.49	South Carolina.....	22,100	16.30
Indiana.....	333,067	8.80	North Carolina.....	93,843	17.94
Michigan.....	412,717	8.89	West Virginia.....	140,860	18.15
Wisconsin.....	293,298	8.97	Virginia.....	80,664	18.14
Montana.....	60,650	9.03	Georgia.....	115,470	19.97
Ohio.....	621,390	9.27	Kentucky.....	146,000	19.82
Oklahoma.....	212,890	9.52	Tennessee.....	112,683	21.44
Arizona.....	34,601	9.63	Louisiana.....	101,852	22.95
Utah.....	42,616	10.54	Mississippi.....	73,000	24.63
Texas.....	427,693	10.90	Arkansas.....	68,486	26.11
Vermont.....	31,625	11.14	Alabama.....	59,082	29.63
Illinois.....	568,924	11.40			
Missouri.....	297,008	11.46			



The smaller area in each state represents the degree of increase in 1920 car and truck registrations over 1919. Both the numerical and per centage gain is given for each state. The same information in tabular form is printed on the opposite page.

## Numerical Increase in State Registrations

State	Numerical Increase	State	Numerical Increase
Ohio.....	110,359	Nebraska.....	19,000
Indiana.....	105,812	Florida.....	18,514
New York.....	103,779	Connecticut.....	16,724
Texas.....	96,383	South Dakota.....	15,767
California.....	91,442	Alabama.....	15,739
Illinois.....	90,486	Arkansas.....	9,632
Pennsylvania.....	88,047	Mississippi.....	23,456
Michigan.....	86,904	Maine.....	9,482
Iowa.....	74,299	Georgia.....	9,000
Oklahoma.....	68,380	Idaho.....	8,641
Kansas.....	65,559	North Dakota.....	7,955
Minnesota.....	66,407	Utah.....	7,380
Wisconsin.....	57,008	Maryland.....	7,207
Missouri.....	52,643	Rhode Island.....	5,644
New Jersey.....	36,864	Arizona.....	5,622
North Carolina.....	31,843	Vermont.....	4,818
West Virginia.....	30,461	New Mexico.....	4,018
Massachusetts.....	27,316	New Hampshire.....	3,055
Washington.....	25,145	Wyoming.....	2,555
Colorado.....	24,390	Delaware.....	2,148
South Carolina.....	14,700	Montana.....	1,326
Kentucky.....	22,675	Nevada.....	1,159
Louisiana.....	22,000	District of Columbia.....	-1,239
Tennessee.....	21,430		
Virginia.....	21,370		
Oregon.....	20,458		
		<b>Total.....</b>	<b>1,645,849</b>

## Percentage Increase in State Registrations

State	Percentage Increase	State	Percentage Increase
West Virginia.....	61%	Iowa.....	20%
Mississippi.....	52	South Carolina.....	19
Oklahoma.....	47	California.....	19
Indiana.....	47	Illinois.....	19
Louisiana.....	43	New Jersey.....	19
Florida.....	34	Maine.....	18
North Carolina.....	29	New York.....	18
Texas.....	29	Pennsylvania.....	18
Kansas.....	29	Vermont.....	18
Alabama.....	27	Washington.....	17
Michigan.....	27	Connecticut.....	16
Tennessee.....	27	South Dakota.....	15
Kentucky.....	25	Delaware.....	13
Minnesota.....	25	Rhode Island.....	13
Oregon.....	25	Nevada.....	13
Wisconsin.....	24	Wyoming.....	12
Colorado.....	23	Massachusetts.....	11
Virginia.....	23	Nebraska.....	10
Ohio.....	22	New Hampshire.....	10
Missouri.....	22	North Dakota.....	10
New Mexico.....	22	Maryland.....	8
Utah.....	21	Georgia.....	7
Arizona.....	20	Montana.....	2
Arkansas.....	20	District of Columbia.....	-4
Idaho.....	20		

## PROPOSED NATIONAL HIGHWAY SYSTEM

Approximately 30,000 miles of durable highways will be constructed and maintained by the national government if the Townsend measure becomes a law. The bill proposes a national system consisting of one per cent of the total mileage of highways in each state, save where insufficient to provide two main highways. States which have constructed such roads in whole or in part receive compensation in the form of additional mileage, and state highway departments are utilized for all of the work where efficient. The principles of the measure have been endorsed by every unit of the automobile industry, as well as by the National Grange, Chamber of Commerce of the United States, and numerous other bodies.

### State and County Bond Issues Authorized During 1920

(State bond figures from U. S. Bureau of Public Roads. County figures from Portland Cement Association)

	State	County	Total
Alabama.....	\$25,000,000§	\$5,450,000	\$30,450,000
Arizona.....		4,500,000	4,500,000
California.....		400,000	400,000
Colorado.....	5,000,000		5,000,000
Delaware.....		1,540,000	1,540,000
Florida.....		2,350,000	2,350,000
Idaho.....	2,000,000	1,835,000	3,835,000
Illinois.....		1,643,200	1,643,200
Indiana.....		860,000	860,000
Kentucky.....		100,000	100,000
Louisiana.....		917,000	917,000
Maine.....		73,000	73,000
Maryland.....	3,000,000		3,000,000
Massachusetts.....		22,000	22,000
Michigan.....		650,000	650,000
Minnesota.....	75,000,000	4,132,000	104,132,000
Mississippi.....		1,400,000	1,400,000
Missouri.....	60,000,000	2,340,000	62,340,000
Montana.....		1,000,000	1,000,000
New Jersey.....	29,000,000†	1,000,000	30,000,000
New Mexico.....		325,000	325,000
North Carolina.....		2,000,000	2,000,000
New York.....		1,498,000	1,498,000
Oklahoma.....		2,813,000	2,813,000
Oregon.....		3,120,000	3,120,000
Pennsylvania.....		17,854,568	17,854,568
South Carolina.....		5,900,000	5,900,000
Tennessee.....		1,770,000	1,770,000
Texas.....		7,864,000	7,864,000
Utah.....		778,500	778,500
Vermont.....		75,000	75,000
Virginia*.....			
Washington.....		468,000	468,000
West Virginia.....	50,000,000	4,329,500	54,329,500
Wisconsin.....		636,000	636,000
Wyoming.....	2,800,000		2,800,000

**\$251,800,000    \$79,643,768    \$331,443,768**

§ In litigation.

\* Enabling act passed.

\*\* Enabling act passed, authorizing up to \$50,000,000.

† For New York-New Jersey vehicular tunnel.

# AUTOMOBILE RACING RECORDS

(From American Automobile Association)

## COMPETITIVE

### SPEEDWAY RECORDS REGARDLESS OF CLASS NON-STOCK

1 mile ...	0:40.23...	De Palma.....	Mercedes.....	Des Moines, Iowa.....	June 24, 1916
2 miles...	1:09.57...	Louis Chevrolet..	Frontenac.....	Chicago, Ill.....	Sept. 3, 1917
3 miles...	1:54.81...	Resta.....	Peugot.....	Des Moines, Iowa.....	June 24, 1916
4 miles...	2:14.22...	Louis Chevrolet..	Frontenac.....	Chicago, Ill.....	Sept. 3, 1917
5 miles...	2:56.35...	Resta.....	Peugot.....	Omaha, Neb.....	July 15, 1916
10 miles...	5:20.20...	Milton.....	Duesenberg.....	Sheepshead Bay, N. Y.....	June 14, 1919
15 miles...	8:18.90...	De Palma.....	Packard Special..	Chicago, Ill.....	Sept. 3, 1917
20 miles...	10:50.20...	De Palma.....	Packard Special..	Chicago, Ill.....	July 28, 1918
25 miles...	14:12.72...	De Palma.....	Packard Special..	Chicago, Ill.....	Sept. 3, 1917
50 miles...	26:23.40...	De Palma.....	Packard.....	Sheepshead Bay, N. Y.....	June 14, 1919
75 miles...	42:40.28...	Louis Chevrolet..	Frontenac.....	Chicago, Ill.....	Sept. 3, 1917
100 miles...	54:17.80...	G. Chevrolet.....	Frontenac.....	Sheepshead Bay, N. Y.....	July 4, 1919
150 miles...	1:26:14.90...	Mulford.....	Hudson.....	Chicago, Ill.....	June 16, 1917
200 miles...	1:55:11.05...	Mulford.....	Hudson.....	Chicago, Ill.....	June 16, 1917
250 miles...	2:23:04.03...	Aitken.....	Peugot.....	Sheepshead Bay, N. Y.....	Sept. 30, 1910
300 miles...	2:55:32.23...	Anderson.....	Stutz.....	Sheepshead Bay, N. Y.....	Oct. 9, 1915
350 miles...	3:24:42.99...	Anderson.....	Stutz.....	Sheepshead Bay, N. Y.....	Oct. 9, 1915
400 miles...	4:04:48.98...	Resta.....	Peugot.....	Chicago, Ill.....	June 26, 1915
450 miles...	4:35:05.78...	Resta.....	Peugot.....	Chicago, Ill.....	June 26, 1915
500 miles...	5:07:26.00...	Resta.....	Peugot.....	Chicago, Ill.....	June 26, 1915

## NON-COMPETITIVE

### STRAIGHTAWAY RECORDS REGARDLESS OF CLASS NON-STOCK

¼ mile.....	0:11.57.....	Milton.....	Duesenberg.....	Daytona.....	April 27, 1920
1 kilo.....	0:14.40.....	Milton.....	Duesenberg.....	Daytona.....	April 27, 1920
1 mile.....	0:23.07.....	Milton.....	Duesenberg.....	Daytona.....	April 27, 1920
2 miles...	0:46.24.....	Milton.....	Duesenberg.....	Daytona.....	April 27, 1920
3 miles...	1:12.18.....	Milton.....	Duesenberg.....	Daytona.....	April 25, 1920
4 miles...	1:36.14.....	Milton.....	Duesenberg.....	Daytona.....	April 25, 1920
5 miles...	2:00.04.....	Milton.....	Duesenberg.....	Daytona.....	April 25, 1920
10 miles...	4:09.31.....	De Palma.....	Packard Special..	Daytona.....	Feb. 16, 1919
15 miles...	6:48.75.....	De Palma.....	Packard Special..	Daytona.....	Feb. 17, 1919
20 miles...	8:54.20.....	De Palma.....	Packard Special..	Daytona.....	Feb. 17, 1919
(Standing Start)					
1 mile.....	0:38.83.....	De Palma.....	Packard Special..	Daytona.....	Feb. 17, 1919

### SPEEDWAY RECORDS REGARDLESS OF CLASS NON-STOCK

¼ mile.....	0:06.91.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 28, 1917
½ mile.....	0:13.94.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 28, 1917
1 kilo.....	0:17.35.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 28, 1917
1 mile.....	0:28.76.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1919
2 miles...	0:57.81.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1917
3 miles...	1:26.61.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1917
4 miles...	1:55.74.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1917
5 miles...	2:24.65.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1917
10 miles...	4:50.88.....	Rader.....	Packard Special..	Sheepshead Bay, N. Y.....	July 27, 1917

**\$316,720,000**

**Motor Vehicle Payments Into  
Public Treasuries in 1920**

**FEDERAL**

1. Passenger Car Excise Taxes.....	\$83,600,294
2. Commercial Vehicle Excise Taxes.....	15,160,456
3. Parts, Accessories, Tires Excise Taxes.....	49,960,128
	<hr/>
	<b>\$148,720,878</b>

**STATE**

1. Registration and License Fees.....	\$102,000,000.00
2. Personal Property Taxes*	50,000,000.00
3. Miscellaneous Taxes*...	5,000,000.00
(Motor Fuel Taxes, Motor Transportation Franchise Taxes, Mileage Taxes, Business Taxes on Manufacturers and Dealers.)	<hr/>
	<b>\$157,000,000</b>

**MUNICIPAL**

1. Registration and License Fees.....	\$ 1,000,000.00
2. Miscellaneous Taxes*...	10,000,000.00
(Motor Fuel Taxes, Motor Transportation Franchise Taxes.)	<hr/>
	<b>\$11,000,000</b>

**Grand Total- - - - \$316,720,878**

\*Conservative estimates based on careful analysis of factors involved.

## *Reasons Why*

# No More Taxes Should Be Placed On the Automobile Industry

---

The automobile now pays more special taxes than any other industry.

---

No productive industry should be singled out for particular taxation on its sales when there is no general sales tax.

---

The automobile already pays in federal taxes alone (\$148,720,800) enough to cover the Federal Judiciary, Congressional and Executive expenses as well as the Departments of Interior, Commerce, Treasury, Justice, Labor and Agriculture (\$138,282,000), plus the expenses of the Diplomatic and Consular Service (\$9,220,000).

---

Total motor vehicle taxes, federal, state and municipal, now equal \$316,000,000 annually or over \$34 per car.

---

The tax on motor vehicles is often based on the theory of ability to pay from surplus wealth; but the motor vehicle represents working capital not surplus non-productive wealth:

60 per cent of all automobile mileage is for business purposes.

90 per cent of all cars are used more or less for business.

57 per cent gain in productivity through car use is experienced by the average automobile owner.

These figures are compiled from answers to thousands of questionnaires sent at random to owners in various sections of the United States.

---

A tax on the automobile is a tax on the moderate income class.

75 per cent of all cars and trucks registered outside of the North Atlantic States are in 37 states which have but 45 per cent of the national wealth, according to Internal Revenue figures.

Iowa which has 4.7 per cent of all cars registered has but .76 per cent of the national wealth.

---

The automobile is the primary means of communication in rural districts.

*(Continued on following page)*



## No More Taxes Should Be Placed On Automobiles

*(Continued from preceding page)*

55 per cent of all cars are registered in towns of 5,000 or under.

33 per cent of all automobiles are registered in communities of 1,000 population or under.

A tax on the motor vehicle falls especially on the farmer:

One-third of all motor vehicles are owned by farmers.

The farmer is by far the largest class of automobile buyer.

The motor truck is a money-saver to industry and agriculture and should not be discouraged by excessive taxation.

45 hours per shipment is the average time saved through use of trucks on short haul lines according to figures of the Associated Industries of Massachusetts.

Motor trucks lower the cost of food. There are over 90,000 trucks owned by farmers in the United States. These trucks widen the market, save each farmer \$150 a year in labor, and reduce transportation charges \$240 a year.

Any further taxes would jeopardize the industry, and thereby yield less revenue.

We have reached a point where any increase of taxes fails to be productive because it increases sales resistance.

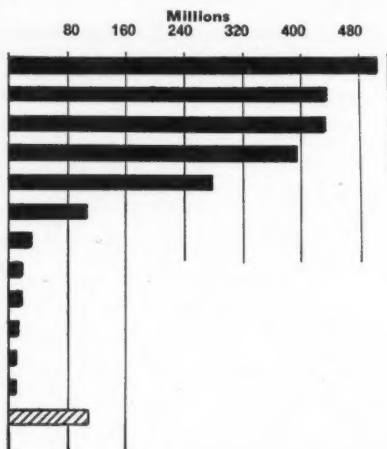
## AUTOMOBILE LARGE CONTRIBUTOR TO NATIONAL BUDGET

*Comparison of Federal Motor Vehicle Taxes With Governmental Expense Items*

U. S. Appropriations  
Fiscal Year 1921

Post Office.....	\$504,434,700
Sundry Civil.....	435,848,806
Navy.....	433,279,574
Army.....	394,700,577
Pension.....	279,150,000
Legis. Exec. & Jud.	106,570,610
Agriculture.....	31,712,784
Fortification.....	18,833,442
Dist. of Columbia.	18,373,004
River and Harbor.	12,400,000
Indian.....	10,020,555
Dip. and Consular	9,220,537
Auto. Fed. Taxes..	\$148,720,878

(Calendar Year 1920)



## 1920 Exports Double 1919

Total Motor Vehicles Exported:.....	170,765
Per cent gain over 1919.....	106%
Total Valuation.....	\$294,891,742
Leading car customer: England.....	18,744
Leading truck customer: England.....	4,955

### Rate of Increase in Exports

#### Passenger Cars Exported:

Number.....141,477  
 % gain over 1919...111%  
 Valuation...\$164,362,919

#### Motor Trucks Exported:

Number.....29,288  
 % gain over 1919...88%  
 Valuation...\$47,164,740

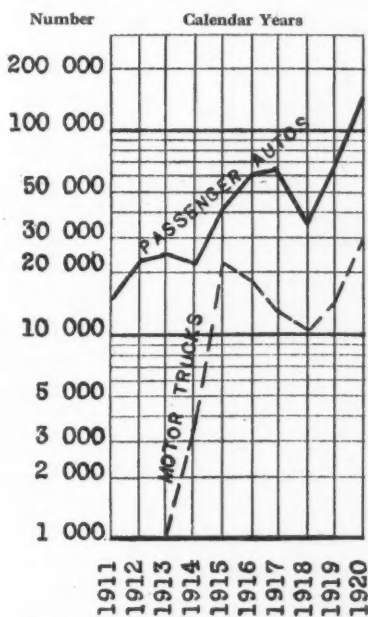


Chart shows rate of increase of passenger car and truck exports from 1911 through 1920.

# Motor Vehicle Exports for 1920

(Figures from Bureau of Foreign and Domestic Commerce)

Country	Passenger Cars No.	Value	Motor Trucks No.	Value	Parts Value
Austria.....	13	\$7,927	3	\$1,348	\$363
Azores and Madeira Islands.....	12	11,519	1	3,650	4,094
Belgium.....	2,450	2,888,057	195	209,985	246,585
Bulgaria.....	17	21,105	4	9,723	89,697
Denmark.....	1,099	1,349,134	296	615,448	3,061,296
Finland.....	82	123,859	104	202,719	24,787
France.....	582	933,234	135	434,943	3,980,079
Germany.....	37	72,319	47	41,958	3,972
Gibraltar.....	86	86,276	8	5,763	6,166
Greece.....	685	876,220	70	100,073	113,077
Hungary.....	2	3,500	1	3,164	.....
Iceland and Faroe Islands.....	31	30,553	38	22,321	11,903
Italy.....	604	682,263	37	67,775	360,856
Malta, Gozo and Cyprus Islands.....	146	129,504	9	10,557	6,822
Netherlands.....	3,103	2,626,862	528	593,491	454,966
Norway.....	3,200	4,025,685	829	1,434,712	483,741
Poland and Danzig.....	232	237,139	22	35,473	.....
Portugal.....	540	843,837	166	284,197	176,328
Roumania.....	173	150,634	75	89,370	44,061
Russia in Europe.....	328	413,900	104	64,785	13,733
Serbia, Montenegro and Albania.....	11	10,431	3	1,511	.....
Spain.....	3,796	5,576,482	567	1,004,833	3,228,719
Sweden.....	5,396	6,766,770	821	1,416,124	472,007
Switzerland.....	1,412	1,781,037	78	49,767	119,792
Turkey in Europe.....	486	415,634	120	165,400	103,977
England.....	18,744	20,978,357	4,995	7,148,880	22,455,836
Scotland.....	528	603,617	162	183,945	114,476
Ireland.....	902	1,023,255	45	40,555	61,382
<b>North America</b>					
Bermuda.....	.....	.....	.....	.....	219
British Honduras.....	19	12,993	21	15,342	10,090
Canada.....	8,046	10,869,891	2,149	4,187,597	21,635,691
Costa Rica.....	98	116,291	14	22,553	20,024
Guatemala.....	169	223,149	25	34,105	47,260
Honduras.....	44	42,248	19	19,770	48,566
Nicaragua.....	157	170,165	23	32,253	56,222
Panama.....	316	323,929	68	53,127	116,274
Salvador.....	191	290,088	42	118,585	45,593
Mexico.....	4,089	3,525,210	1,281	1,973,994	1,074,909
Miquelon, Langley and St. Pierre Islands.....	.....	.....	.....	.....	69
Newfoundland and Labrador.....	96	139,584	12	54,907	28,582
<b>West Indies</b>					
Barbados.....	146	124,483	58	62,150	38,735
Jamaica.....	421	401,789	215	313,578	196,302
Trinidad and Tobago.....	450	414,679	202	271,451	175,810
Other British.....	151	127,046	56	38,168	40,649
Cuba.....	6,293	7,096,895	2,104	5,326,497	2,288,292
Virgin Islands of U. S. (formerly Danish).....	66	46,925	8	16,689	27,642

Country	Passenger Cars No.	Value	Motor Trucks No.	Value	Parts Value
Dominican Republic.....	593	\$577,560	213	\$226,982	\$241,873
Dutch West Indies.....	69	67,376	18	8,542	7,441
French West Indies.....	148	129,703	71	55,607	68,954
Haiti.....	202	171,293	27	51,358	68,920

#### South America

Argentina.....	4,597	5,828,057	354	825,333	7,263,624
Bolivia.....	24	39,634	13	21,895	19,076
Brazil.....	6,251	6,761,382	1,540	1,191,577	3,144,122
Chile.....	797	992,539	299	326,216	426,563
Colombia.....	962	1,247,976	275	291,410	216,772
Ecuador.....	201	288,884	46	85,898	49,376
British Guiana.....	130	92,665	123	72,966	46,122
Dutch Guiana.....	10	12,706	6	4,111	15,153
French Guiana.....	3	5,264	1	3,061	191
Paraguay.....	102	64,967	.....	.....	8,694
Peru.....	1,297	1,249,546	920	810,574	434,784
Uruguay.....	4,090	4,055,458	113	113,479	608,269
Venezuela.....	881	820,040	186	144,308	212,835

#### Asia

Aden.....	52	50,387	2	7,188	12,344
China.....	1,774	2,356,699	261	464,845	302,258
Kwantung (Leased Territory).....	62	68,491	82	193,549	11,337
Chosen (Korea).....	595	311,457	.....	.....	82,934
British India.....	12,014	13,865,679	1,534	3,069,542	1,411,866
Straits Settlements.....	2,334	2,638,794	447	857,410	583,215
Other British East Indies.....	440	540,146	69	152,849	95,321
Dutch East Indies.....	4,765	6,500,062	1,182	2,920,663	1,041,283
French East Indies.....	537	568,961	141	117,984	42,210
Hongkong.....	214	341,191	26	55,377	44,338
Japan.....	2,796	2,983,497	1,233	1,590,760	624,805
Persia.....	128	169,518	20	10,601	8,415
Russia in Asia.....	76	124,235	9	18,491	18,265
Siam.....	82	92,457	5	8,965	13,909
Turkey in Asia.....	1,010	807,796	93	126,775	83,225

#### Oceania British

Australia.....	8,989	10,034,626	985	1,436,589	1,855,174
New Zealand.....	6,671	8,150,277	494	1,115,886	1,205,309
Other British.....	28	31,065	6	6,250	10,461
French Oceania.....	13	14,255	4	9,858	7,424
German Oceania.....	22	16,165	9	4,706	9,037
Philippine Islands.....	3,452	3,932,108	1,155	1,818,221	859,396

#### Africa

Abyssinia.....	5	2,416	.....	.....	.....
Belgian Congo.....	24	16,325	13	8,470	1,896
British Africa, West.....	753	913,814	780	1,137,335	348,473
British South Africa.....	6,688	7,795,194	237	418,535	1,625,438
British East Africa.....	373	432,819	8	17,338	52,461
Canary Islands.....	154	200,745	11	32,311	66,738
Egypt.....	1,607	1,453,898	74	69,492	104,582
French Africa.....	365	297,191	337	352,925	117,272
German Africa.....	30	21,948	11	11,405	7,609
Italian Africa.....	5	3,075	5	11,500	.....
Kamerun.....	.....	.....	9	7,308	.....
Liberia.....	1	1,205	2	1,156	100
Madagascar.....	4	4,205	.....	.....	686
Morocco.....	364	340,490	44	24,376	39,104
Portuguese Africa.....	244	282,203	34	49,409	44,085
Spanish Africa.....	.....	.....	1	2,118	351
Other Countries.....	.....	.....	.....	.....	328,359

<b>Total.....</b>	<b>141,477</b>	<b>\$164,362,919</b>	<b>29,288</b>	<b>\$47,146,740</b>	<b>\$83,382,083</b>
-------------------	----------------	----------------------	---------------	---------------------	---------------------

# Number of Passenger Cars Exported 1914-1920

(Figures from Bureau of Foreign and Domestic Commerce)

Exported to:	1914*	1915*	1916*	1917*	1918†	1919†	1920†
<b>Europe</b>							
Austria and Hungary.....	314	4	...	...	...	12	15
Azores and Madeira Islands.....	20	18	6	1	...	25	12
Belgium.....	244	12	...	...	...	1,628	2,450
Bulgaria.....	43	...	...	...	...	1	17
Denmark.....	263	219	806	1,215	98	2,519	1,099
Finland.....	106	17	...	...	...	187	82
France.....	1,427	451	2,087	1,367	1,003	866	582
Germany.....	1,411	16	...	...	...	...	37
Gibraltar.....	64	9	15	9	...	34	86
Greece.....	25	36	124	78	1	269	685
Iceland and Faroe Islands.....	5	3	...	11	40	74	31
Italy.....	342	114	382	186	99	26	604
Malta, Gozo.....	1	...	...	...	...	29	146
Netherlands.....	141	96	439	485	...	1,160	3,103
Norway.....	145	125	732	922	198	1,835	3,200
Poland and Danzig.....	...	...	...	...	...	...	232
Portugal.....	59	14	204	283	168	320	540
Rumania.....	28	...	2	...	...	310	173
Russia in Europe.....	926	907	1,268	780	10	17	322
Serbia, Montenegro.....	4	2	3	...	...	...	18
Spain.....	83	71	364	1,125	808	1,458	3,791
Sweden.....	324	137	238	390	1	1,546	5,396
Switzerland.....	79	2	6	9	1	428	1,416
Turkey in Europe.....	35	...	...	...	...	68	486
<b>United Kingdom</b>							
England.....	6,992	8,321	9,810	1,268	398	5,150	18,744
Scotland.....	25	143	158	4	25	25	528
Ireland.....	2	159	60	...	...	914	902
<b>North America</b>							
British Honduras.....	4	1	...	12	7	25	19
Canada.....	4,377	4,127	10,017	14,421	8,543	8,826	8,046
Newfoundland and Labrador.....	5	17	21	48	84	138	96
<b>Central American States</b>							
Costa Rica.....	20	9	60	37	41	20	98
Guatemala.....	26	10	24	35	15	125	169
Honduras.....	4	31	34	42	11	22	44
Nicaragua.....	...	...	6	5	69	71	157
Panama.....	58	110	228	356	65	173	316
Salvador.....	10	16	68	75	62	86	191
Mexico.....	155	70	383	2,807	1,915	2,850	4,089
<b>West Indies</b>							
British:							
Barbados.....	14	19	63	121	21	76	146
Jamaica.....	66	80	273	335	142	121	421
Trinidad and Tobago.....	47	59	128	204	86	182	450
Other British.....	13	38	100	124	43	53	151
Cuba.....	297	1,359	3,698	3,529	1,780	2,887	6,293
Virgin Is (formerly Danish).....	3	3	9	18	149	27	66
Dominican Republic.....	11	28	131	191	220	173	593
Dutch.....	13	24	21	32	7	13	69
French.....	65	54	101	293	75	156	148
Haiti.....	2	...	10	29	92	179	202

\*Fiscal. †Calendar.

South America	1914*	1915*	1916*	1917*	1918†	1919†	1920†
Argentina.....	940	626	4,399	3,924	1,628	2,202	4,597
Bolivia.....	4	10	26	141	15	14	24
Brazil.....	299	81	272	873	1,108	3,273	6,251
Chile.....	195	120	826	2,587	1,734	454	797
Colombia.....	79	39	91	173	126	253	962
Ecuador.....	21	20	62	137	63	84	201
Falkland Island.....	...	...	...	...	...	4	...
Guiana:							
British.....	16	45	73		62	49	130
Dutch.....	7	9	15	23	2	7	10
French.....	...	...	1	1	3	3	3
Paraguay.....	...	5	6	40	...	13	102
Peru.....	36	24	59	400	626	599	1,297
Uruguay.....	183	45	285	1,165	1,351	1,844	4,090
Venezuela.....	126	227	518	542	118	293	881
Asia							
Aden.....	28	9	16	10	6	29	52
China.....	144	122	264	509	874	1,158	1,774
China (leased territory).....	...	...	...	53	40	36	62
Chosen.....	2	2	7	5	5	11	595
East Indies							
British:							
British India.....	437	315	2,289	3,603	73	2,624	12,014
Straits Settlements.....	262	77	376	855	76	499	2,334
Other British.....	82	25	239	110	1	102	440
Dutch.....	290	105	1,064	3,206	1,260	1,820	4,765
French.....	...	...	8	18	17	37	537
Hongkong.....	11	2	15	38	129	144	214
Japan.....	96	28	153	652	2,699	2,805	2,796
Persia.....	...	...	...	...	10	4	128
Russia in Asia.....	12	551	683	1,072	3	49	76
Siam.....	37	13	41	31	85	71	82
Turkey in Asia.....	7	1	...	...	6	119	1,010
Oceania							
British:							
Australia.....	3,099	2,169	5,335	5,055	3,826	3,905	8,989
New Zealand.....	1,065	938	2,672	3,554	1,418	2,959	6,671
Other British.....	9	2	28	19	25	23	28
French.....	46	8	92	22	10	11	13
German.....	...	1	7	12	10	8	22
Philippine Islands.....	614	407	861	1,019	1,690	2,381	3,452
Africa							
Abyssinia.....	...	...	...	...	...	...	5
Belgian Kongo.....	...	...	...	...	...	...	24
British Africa:							
West.....	32	42	63	240	128	357	753
South.....	1,618	695	2,859	3,423	1,205	3,019	6,688
East.....	49	120	237	94	77	82	373
Canary Islands.....	15	27	51	31	2	6	154
Egypt.....	22	1	25	38	6	230	1,607
French Africa.....	19	...	2	41	130	198	365
German Africa.....	19	7	20	...	...	7	30
Italian Africa.....	...	...	...	3	...	...	5
Liberia.....	...	...	...	1	...	...	1
Madagascar.....	...	...	7	1	1	...	4
Morocco.....	63	25	52	87	...	237	364
Portuguese Africa.....	24	6	56	7	12	18	244
<b>Total.....</b>	<b>28,306</b>	<b>23,880</b>	<b>56,234</b>	<b>64,808</b>	<b>36,936</b>	<b>67,145</b>	<b>141,477</b>

#### RECAPITULATION

Europe and United Kingdom.....	13,108	10,876	16,704	8,133	2,850	18,901	44,697
North America.....	5,190	6,055	15,375	22,714	13,427	16,203	21,764
South America.....	1,906	1,251	6,633	10,152	6,836	9,092	16,345
Asia.....	1,408	1,250	5,155	10,162	5,283	9,508	26,879
Oceania.....	4,833	3,525	8,995	9,681	6,979	9,287	19,175
Africa.....	1,861	923	3,372	3,966	1,561	4,154	12,617

\*Fiscal. †Calendar.

# Number of Motor Trucks Exported 1914-1920

(Figures from Bureau of Foreign and Domestic Commerce)

Exported to:	1914*	1915*	1916*	1917*	1918†	1919†	1920†
<b>Europe</b>							
Austria.....	.....	.....	.....	.....	.....	.....	3
Austria-Hungary.....	3	.....	.....	.....	.....	10	.....
Azores and Madeira Is. ....	.....	.....	.....	.....	.....	3	1
Belgium.....	.....	100	.....	.....	.....	138	195
Bulgaria.....	.....	.....	.....	.....	.....	.....	4
Denmark.....	.....	44	41	50	.....	643	296
Finland.....	.....	.....	.....	.....	.....	10	104
France.....	2	4,990	5,681	4,264	3,356	3,521	135
Germany.....	24	4	.....	.....	.....	.....	47
Gibraltar.....	.....	.....	.....	.....	27	.....	8
Greece.....	1	142	45	3	14	37	70
Hungary.....	.....	.....	.....	.....	.....	.....	1
Iceland and Faroe Islands ..	.....	.....	.....	.....	1	26	38
Italy.....	1	1	5	65	78	7	37
Malta, Gozo & Cyprus Is. ....	.....	.....	.....	.....	.....	.....	9
Netherlands.....	1	.....	50	36	.....	122	528
Norway.....	.....	.....	81	162	108	815	829
Poland and Danzig.....	.....	.....	.....	.....	.....	.....	22
Portugal.....	8	.....	295	21	16	30	166
Rumania.....	.....	.....	.....	.....	.....	114	75
Russia in Europe.....	2	2,251	3,909	1,739	2	2	104
Serbia, Montenegro, etc. ....	.....	10	20	.....	.....	4	3
Spain.....	.....	1	30	29	55	209	567
Sweden.....	1	10	19	6	.....	211	821
Switzerland.....	.....	.....	.....	.....	.....	33	78
Turkey in Europe.....	1	2	.....	.....	.....	82	120
<b>United Kingdom</b>							
England.....	203	5,306	8,268	6,525	2,080	890	4,995
Scotland.....	.....	4	224	.....	182	2	162
Ireland.....	.....	1	8	.....	2	15	45
<b>North America</b>							
British Honduras.....	.....	.....	.....	.....	3	.....	21
Canada.....	247	300	387	636	1,596	1,858	2,149
Miquelon.....	.....	.....	.....	.....	.....	6	.....
Newfoundland & Labrador ..	1	1	1	1	6	10	12
<b>Central American States</b>							
Costa Rica.....	8	.....	.....	1	.....	1	14
Guatemala.....	.....	.....	2	4	1	10	25
Honduras.....	.....	.....	6	4	4	7	19
Nicaragua.....	.....	.....	1	.....	3	11	23
Panama.....	5	.....	32	75	45	38	68
Salvador.....	.....	.....	1	1	3	4	42
Mexico.....	12	8	51	218	397	938	1,281
<b>West Indies</b>							
British:	.....	.....	.....	.....	.....	.....	.....
Barbados.....	.....	.....	.....	.....	7	15	58
Jamaica.....	3	3	9	6	12	36	215
Trinidad and Tobago....	1	.....	2	2	12	69	202
Other British.....	.....	.....	6	1	9	25	56
Cuba.....	19	21	117	397	557	915	2,104
Virgin Islands of U. S. (formerly Danish).....	.....	.....	.....	.....	.....	1	8
Dominican Republic.....	1	.....	4	22	19	48	213
Dutch.....	1	.....	.....	.....	.....	3	18
French.....	.....	.....	1	7	14	58	71
Haiti.....	.....	.....	.....	2	10	8	27

\*Fiscal. †Calendar.



South America	1914*	1915*	1916*	1917*	1918†	1919†	1920†
Argentina.....	48	....	45	141	45	145	354
Bolivia.....	....	....	....	20	16	8	13
Brazil.....	13	....	11	14	37	200	1,540
Chile.....	2	....	17	69	154	88	299
Colombia.....	....	....	4	2	4	38	275
Ecuador.....	....	....	2	1	6	5	46
Guiana:							
British.....	....	1	....	....	8	35	123
Dutch.....	....	....	1	....	1	1	6
French.....	....	....	....	....	....	4	1
Peru.....	3	....	5	25	100	207	920
Uruguay.....	1	....	2	4	15	68	113
Venezuela.....	12	....	6	14	7	41	186
Asia							
Aden.....	....	....	....	....	....	1	2
China.....	7	....	39	9	42	273	261
China (leased territory) ..	....	1	....	....	2	4	82
Chosen.....	....	....	3	....	....	....	....
East Indies							
British India.....	7	7	135	126	11	260	1,534
Straits Settlements.....	7	....	17	57	81	115	447
Other British.....	....	1	20	25	2	16	69
Dutch.....	7	11	58	108	154	324	1,182
French.....	....	....	....	....	1	16	141
Hongkong.....	....	1	3	....	9	19	26
Japan.....	1	1	15	70	605	1,143	1,233
Persia.....	....	....	....	....	4	....	20
Russia in Asia.....	....	596	1,170	515	15	21	9
Siam.....	....	....	9	8	4	8	5
Turkey in Asia.....	1	5	....	2	....	14	93
Oceania							
British:							
Australia.....	32	57	201	194	38	418	985
New Zealand.....	39	20	93	75	84	225	494
Other British.....	....	....	2	1	1	9	6
French.....	4	....	1	2	5	1	4
German.....	....	....	1	3	4	8	9
Philippine Islands.....	38	27	58	53	152	516	1,155
Africa							
British Africa:							
West.....	1	....	7	115	30	215	788
South.....	12	15	35	34	36	57	230
East.....	....	....	....	....	....	6	3
Belgian Kongo.....	....	....	....	....	....	13	17
Canary Islands.....	1	....	....	1	....	15	11
Egypt.....	....	....	....	4	....	15	74
French Africa.....	....	....	....	....	12	44	337
German Africa.....	....	....	....	....	....	7	11
Italian Africa.....	....	....	....	....	....	....	5
Kamerun.....	....	....	....	....	....	....	9
Liberia.....	....	....	....	....	....	....	2
Morocco.....	....	....	7	....	....	13	44
Portuguese Africa.....	1	....	1	1	4	....	34
Spanish Africa.....	....	....	....	....	....	....	1
<b>Total.....</b>	<b>784</b>	<b>13,996</b>	<b>21,265</b>	<b>15,971</b>	<b>10,308</b>	<b>15,585</b>	<b>29,288</b>
RECAPITULATION							
Europe & United Kingdom	249	12,883	18,676	12,902	5,921	6,924	9,463
North America.....	298	358	620	1,380	2,698	1,177	6,626
South America.....	79	13	93	291	393	840	3,876
Asia.....	30	623	1,469	921	930	2,214	5,104
Oceania.....	113	104	356	328	284	4,061	2,653
Africa.....	15	15	51	155	82	369	1,566

\*Fiscal. †Calendar.

# Value of Passenger Cars Exported 1914-1920

(Figures from Bureau of Foreign and Domestic Commerce)

Exported to:	1914*	1915*	1916*	1917*	1918†	1919†	1920†
<b>Europe</b>							
Austria and Hungary....	\$190,199	\$ 2,310	\$ .....	\$ .....	.....	\$ 15,000	\$ 11,427
Azores and Madeira Isl..	10,771	10,119	2,272	700	.....	12,078	11,519
Belgium.....	139,681	15,191	.....	.....	.....	1,784,133	2,888,057
Bulgaria.....	21,679	.....	.....	.....	.....	3,220	21,105
Denmark.....	176,947	156,296	548,971	932,768	159,516	2,961,948	1,349,134
Finland.....	83,835	9,163	.....	.....	.....	254,378	123,859
France.....	919,060	252,909	1,428,325	836,557	1,134,818	1,999,773	933,234
Germany.....	1,040,787	17,364	.....	.....	.....	.....	72,319
Gibraltar.....	33,030	6,077	16,165	11,518	.....	27,493	86,276
Greece.....	28,256	28,431	118,398	79,913	2,000	407,822	876,220
Iceland and Faroe Islands	2,488	2,128	.....	5,134	34,062	58,526	30,553
Italy.....	241,466	70,265	217,240	126,432	82,957	59,531	682,263
Malta, Gozo, etc.....	422	.....	.....	.....	.....	19,065	129,504
Netherlands.....	117,131	131,801	399,017	612,495	.....	1,387,680	2,626,862
Norway.....	118,338	89,357	592,560	944,002	430,514	2,355,339	4,025,685
Poland and Danzig.....	.....	.....	.....	.....	.....	.....	237,139
Portugal.....	65,545	18,255	198,975	271,421	215,062	405,880	843,837
Rumania.....	17,018	.....	3,000	.....	.....	277,884	150,634
Russia in Europe.....	898,458	1,527,768	3,142,616	943,003	8,325	8,426	413,900
Serbia, Montenegro, etc..	2,843	2,950	4,200	.....	.....	.....	10,431
Spain.....	64,758	59,555	299,367	1,195,887	1,042,789	1,759,606	5,576,482
Sweden.....	253,588	108,652	180,869	360,554	2,800	2,021,948	6,766,770
Switzerland.....	56,838	1,244	4,499	9,248	1,646	472,549	1,781,037
Turkey in Europe.....	21,052	.....	.....	.....	.....	52,504	415,634
<b>United Kingdom</b>							
England.....	5,615,487	6,849,145	6,933,806	1,444,346	997,342	5,573,843	20,978,357
Scotland.....	46,948	82,708	124,138	2,991	85,000	34,633	603,617
Ireland.....	1,593	157,091	55,014	.....	.....	897,065	1,023,255
<b>North America</b>							
British Honduras.....	3,929	550	.....	5,774	5,450	15,598	12,993
Canada.....	5,445,052	3,723,125	6,555,334	11,143,740	7,141,405	9,393,009	10,869,891
Newfoundland & Labrador	2,761	11,681	15,632	38,910	97,861	160,414	139,584
<b>Central American States</b>							
Costa Rica.....	17,877	3,897	28,325	23,125	20,100	19,470	116,291
Guatemala.....	36,763	12,012	23,552	36,174	21,914	151,667	223,149
Honduras.....	3,286	20,422	22,652	24,564	15,443	14,549	42,248
Nicaragua.....	.....	.....	3,109	2,120	51,829	61,923	170,165
Panama.....	51,906	85,990	170,964	216,711	55,187	164,696	323,929
Salvador.....	13,323	8,888	54,598	62,314	77,184	124,998	290,088
Mexico.....	239,166	66,830	309,200	1,642,011	1,539,263	2,360,346	3,525,210
<b>West Indies</b>							
<b>British:</b>							
Barbados.....	12,320	8,699	30,688	62,364	12,506	56,797	124,483
Jamaica.....	61,475	61,622	205,239	202,375	104,595	116,425	401,789
Trinidad and Tobago....	49,079	40,281	87,167	112,014	64,995	137,564	414,679
Other British.....	11,061	18,463	51,612	80,879	26,192	35,966	127,046
Cuba.....	254,428	745,695	2,091,295	2,545,071	2,638,001	3,121,228	7,096,895
Virgin Is. (formerly Danish)	2,954	1,375	3,426	9,114	13,069	20,010	46,925
Dominican Republic.....	15,195	14,609	60,127	96,173	169,285	174,204	577,560
Dutch.....	9,605	16,829	10,945	19,191	4,233	7,369	67,376
French.....	48,377	34,906	63,670	154,990	63,150	137,929	129,703
Haiti.....	1,485	.....	3,788	13,780	59,098	158,594	171,293

South America		1914*	1915*	1916*	1917*	1918†	1919†	1920†
Argentina.....	\$963,586	\$294,129	\$2,065,439	\$2,336,001	\$1,673,137	\$2,711,232	\$5,828,057	
Bolivia.....	12,764	5,462	16,208	100,151	29,187	13,846	39,634	
Brazil.....	264,992	52,339	157,968	523,383	856,374	2,580,304	6,761,382	
Chile.....	160,194	64,327	530,211	1,821,842	2,315,386	700,997	992,539	
Colombia.....	69,620	34,956	58,525	118,937	95,677	298,383	1,247,976	
Ecuador.....	21,229	11,233	44,396	106,478	73,953	111,051	288,884	
Falkland Islands.....						5,788		
Guiana:								
British.....	11,364	24,311	33,933	65,989	45,467	39,369	92,665	
Dutch.....	3,948	4,492	7,181	11,797	730	3,872	12,706	
French.....			1,000	498	1,236	2,167	5,264	
Paraguay.....		2,308	2,256	20,192		5,780	64,967	
Peru.....	31,362	20,658	40,388	295,558	823,753	662,528	1,249,546	
Uruguay.....	167,269	25,706	150,540	612,838	799,787	1,757,623	4,055,458	
Venezuela.....	102,073	143,086	314,156	327,507	104,942	300,888	820,040	
Asia								
Aden.....	20,990	6,706	9,166	7,968	5,049	25,197	50,387	
China.....	143,619	119,635	191,932	383,371	896,728	1,414,844	2,356,699	
China (leased territory).....				27,121	30,934	28,995	68,493	
Chosen.....	1,795	1,800	4,760	3,632	3,595	9,272	311,457	
East Indies								
British:								
British India.....	379,954	274,680	1,638,262	2,644,085	70,254	2,891,943	13,865,679	
Straits Settlements.....	216,659	70,210	239,715	585,820	72,075	572,320	2,638,794	
Other British.....	73,175	20,208	168,685	80,033	1,255	114,609	540,146	
Dutch.....	208,722	87,306	753,128	2,642,330	1,567,766	2,369,241	6,500,062	
French.....			3,033	17,967	24,254	43,918	568,961	
Hongkong.....	13,043	1,475	10,858	35,255	119,958	188,121	341,191	
Japan.....	100,995	29,210	120,061	481,748	2,877,692	2,890,034	2,983,497	
Persia.....					5,673	2,275	169,518	
Russia in Asia.....	14,998	1,477,809	529,385	1,324,060	11,734	52,415	124,235	
Siam.....	26,219	10,317	32,082	15,915	75,860	70,210	92,457	
Turkey in Asia.....	5,662	1,000			3,965	116,347	807,796	
Oceania								
Australia.....	2,615,896	1,768,479	4,147,302	3,792,571	3,271,317	4,016,751	10,034,626	
New Zealand.....	974,708	784,206	2,065,843	2,558,118	1,228,864	3,314,894	8,150,277	
Other British.....	6,014	2,081	18,227	11,062	19,192	17,261	31,065	
French.....	45,184	7,482	56,789	12,330	8,655	11,118	14,255	
German.....		5,000	3,208	5,847	7,035	6,285	16,165	
Philippine Islands.....	697,175	425,001	859,450	686,731	1,462,571	2,629,348	3,932,108	
Africa								
British Africa:								
Abyssinia.....							2,416	
West.....	18,319	20,899	35,361	144,838	80,908	393,405	913,814	
South.....	1,437,883	731,278	2,040,977	2,378,380	1,070,570	3,462,330	7,795,194	
East.....	34,430	75,188	137,245	55,681	59,992	90,954	432,819	
Canary Islands.....	6,956	12,015	32,935	24,525	730	10,162	200,745	
Egypt.....	11,437	695	18,352	22,113	20,850	165,244	1,453,898	
Belgian Kongo.....							16,325	
French Africa.....	17,273		1,155	13,315	74,144	144,023	297,191	
German Africa.....	14,136	4,865	7,760			3,721	21,948	
Italian Africa.....				1,200			3,075	
Liberia.....				975			1,205	
Madagascar.....			2,532	808	854		4,205	
Morocco.....	29,497	10,847	20,574	39,670		162,016	340,490	
Portuguese Africa.....	21,563	7,301	38,510	5,429	8,598	16,636	282,203	
<b>Total.....</b>	<b>\$25,392,963</b>	<b>21,113,953</b>	<b>40,660,263</b>	<b>48,612,632</b>	<b>36,278,292</b>	<b>73,700,527</b>	<b>164,362,919</b>	

#### RECAPITULATION

Europe & United Kingdom.....	10,168,218	9,598,779	14,269,432	7,776,969	4,196,831	22,850,324	52,669,110
North America.....	6,280,042	4,875,874	9,791,323	16,491,394	12,180,760	16,432,756	24,871,297
South America.....	1,808,401	683,607	3,422,201	6,341,171	6,819,629	9,193,828	21,459,118
Asia.....	1,205,831	2,100,356	3,701,087	8,249,505	5,766,792	10,789,471	31,419,370
Oceania.....	4,338,977	2,992,249	7,140,819	7,066,659	5,997,634	9,995,657	22,178,496
Africa.....	1,591,494	863,088	2,335,401	2,686,934	1,316,646	4,438,491	11,765,528

\*Fiscal. †Calendar.

# Value of Motor Trucks Exported 1914-1920

(Figures from Bureau of Foreign and Domestic Commerce)

Exported to:	1914*	1915*	1916*	1917*	1918†	1919†	1920†
<b>Europe</b>							
Austria.....	\$.....	\$.....	\$.....	\$.....	\$.....	\$.....	\$ 1,348
Austria-Hungary.....	7,455	.....	.....	.....	.....	18,500	.....
Azores and Madeira Isl..	.....	.....	.....	.....	.....	3,816	3,650
Belgium.....	.....	365,000	.....	.....	.....	307,778	209,985
Bulgaria.....	.....	.....	.....	.....	.....	.....	9,723
Denmark.....	.....	25,033	36,413	81,414	.....	1,339,380	615,448
Finland.....	.....	.....	.....	.....	.....	12,783	202,719
France.....	5,070	13,523,843	17,709,579	13,854,903	12,920,029	15,143,226	434,943
Germany.....	18,462	2,800	.....	.....	.....	.....	41,958
Gibraltar.....	.....	.....	.....	.....	58,325	.....	5,763
Greece.....	1,800	426,570	98,815	2,000	32,000	80,891	100,073
Hungary.....	.....	.....	.....	.....	.....	.....	3,164
Iceland and Faroe Islands	.....	.....	.....	.....	2,245	21,661	22,321
Italy.....	1,229	8,000	14,655	159,775	115,632	24,310	67,775
Malta, Gozo & Cyprus Is.	.....	.....	.....	.....	.....	.....	10,557
Netherlands.....	1,452	19,069	93,797	55,305	.....	294,772	593,491
Norway.....	3,852	4,689	121,480	266,741	320,574	1,787,473	1,434,712
Poland and Danzig.....	.....	.....	.....	.....	.....	.....	35,473
Portugal.....	12,075	10,291	1,117,681	45,087	56,804	76,728	284,197
Rumania.....	.....	.....	.....	.....	.....	94,951	89,370
Russia in Europe.....	5,322	7,666,883	12,544,258	5,428,979	5,454	2,503	64,785
Serbia, Montenegro, Etc.	.....	6,300	65,000	.....	.....	5,700	1,511
Spain.....	.....	1,800	57,277	55,808	141,883	409,493	1,004,833
Sweden.....	900	17,600	29,050	10,879	.....	444,695	1,416,124
Switzerland.....	.....	.....	.....	.....	.....	40,044	49,767
Turkey in Europe.....	2,000	8,009	.....	.....	.....	118,005	165,400
<b>United Kingdom</b>							
England.....	189,099	14,042,325	18,723,403	17,061,105	5,999,541	1,342,575	7,148,880
Scotland.....	.....	11,250	271,745	.....	667,413	1,779	183,945
Ireland.....	.....	7,033	39,776	.....	4,276	19,948	40,555
<b>North America</b>							
British Honduras.....	.....	.....	.....	.....	4,535	.....	15,342
Canada.....	474,724	705,213	724,817	945,047	2,035,464	2,896,325	4,187,597
Miquelon.....	.....	.....	.....	.....	.....	6,000	.....
Newfoundland & Labrador	1,221	750	1,692	2,675	6,247	23,306	54,907
<b>Central American States</b>							
Costa Rica.....	10,571	4,165	.....	900	.....	504	22,553
Guatemala.....	.....	.....	4,916	4,323	1,312	16,761	34,105
Honduras.....	.....	12,500	14,540	4,094	2,017	9,589	19,770
Nicaragua.....	.....	.....	2,500	.....	8,251	16,026	32,253
Panama.....	7,243	12,010	55,171	97,970	44,573	39,148	53,127
Salvador.....	.....	.....	1,300	868	10,561	8,897	118,585
Mexico.....	17,509	14,492	100,500	198,151	524,035	1,205,664	1,973,994
<b>West Indies</b>							
British:							
Barbados.....	.....	.....	.....	1,506	15,192	14,394	62,150
Jamaica.....	9,250	7,292	18,524	8,285	7,575	42,828	313,578
Trinidad and Tobago.....	2,000	.....	1,974	5,722	19,893	86,479	271,451
Other British.....	.....	.....	11,327	500	6,304	14,301	38,168
Cuba.....	33,500	34,607	176,647	722,519	1,109,368	1,955,509	5,326,497
Virgin Islands of U. S. (formerly Danish).....	.....	.....	.....	.....	.....	3,350	16,689
Dominican Republic.....	1,800	3,372	5,173	23,640	16,497	75,963	226,982
Dutch.....	595	1,463	.....	2,095	.....	3,095	8,542
French.....	.....	3,975	2,310	13,505	22,836	77,085	55,607
Haiti.....	.....	.....	.....	1,324	9,664	6,798	51,358

\*Fiscal. †Calendar.

South America	1914*	1915*	1916*	1917*	1918†	1919†	1920†
Argentina.....	\$65,225	\$2,910	\$33,033	\$146,255	\$40,707	\$291,430	\$825,333
Bolivia.....				48,590	41,116	12,376	21,895
Brazil.....	20,449	2,861	19,635	8,300	42,481	199,738	1,191,577
Chile.....	10,743		46,566	160,696	239,621	131,055	326,216
Colombia.....		1,237	1,236	4,998	7,385	39,341	291,410
Ecuador.....			3,378	2,050	10,420	6,865	85,898
Guiana:							
British.....		900		1,520	7,700	24,119	72,966
Dutch.....			1,037		1,000	506	4,111
French.....						2,061	3,061
Peru.....	5,301	3,484	5,830	48,776	246,392	215,175	810,574
Uruguay.....	865		5,818	10,437	13,512	79,196	113,479
Venezuela.....	28,228	7,164	13,029	28,502	7,100	24,579	144,308

#### Asia

Aden.....						922	7,188
China.....	12,700		89,799	14,287	65,085	596,715	464,845
China (leased territory) ..		2,451			5,490	6,335	193,549
Chosen.....			5,027				

#### East Indies

British:							
British India.....	12,091	8,680	208,067	205,023	22,043	563,339	3,069,542
Straits Settlements.....	14,381		25,169	61,881	120,128	229,624	857,410
Other British.....		3,300	27,841	38,970	5,900	27,700	152,849
Dutch.....	14,232	9,567	82,586	137,609	335,536	689,225	2,920,663
French.....					1,800	11,556	117,984
Hongkong.....		780	6,304		10,970	25,547	55,377
Japan.....	900	3,382	14,528	59,198	895,125	1,736,439	1,590,760
Persia.....					2,712		10,601
Russia in Asia.....		1,903,221	3,546,435	1,662,144	18,200	41,482	18,491
Siam.....			7,036	6,700	6,342	12,411	8,965
Turkey in Asia.....	1,354	26,282		1,143		27,695	126,775

#### Oceania

Australia.....	37,378	84,142	295,538	237,159	66,254	565,406	1,436,589
New Zealand.....	61,599	31,575	149,846	119,833	128,215	501,488	1,115,886
Other British.....			2,612	1,688	1,835	9,779	6,250
French.....		7,625	860	2,750	6,600	600	9,858
German.....			1,530	2,377	4,213	7,020	4,706
Philippine Islands.....	64,805	62,132	88,286	57,457	205,519	798,540	1,818,221

#### Africa

British Africa:							
West.....	1,260		13,173	124,574	25,946	254,836	1,137,335
South.....	11,539	40,280	54,519	82,957	44,254	102,992	418,535
East.....						5,010	17,338
Belgian Congo.....						3,196	8,470
Canary Islands.....	1,203			575		4,312	32,311
Egypt.....				9,624		13,285	69,492
French Africa.....					9,817	47,157	352,925
German.....						3,544	11,405
Italian Africa.....							11,500
Kamerun.....							7,308
Liberia.....							1,156
Morocco.....			9,675			13,410	24,376
Portuguese Africa.....	2,604		2,803	2,500	7,725	6,408	49,409
Spanish.....							2,118

**Total.....** \$1,181,611 39,140,682 56,805,548 42,343,502 26,814,952 35,425,437 47,146,740

#### RECAPITULATION

Europe & United Kingdom	\$248,716	36,146,495	50,922,929	37,021,996	20,324,176	21,591,011	14,242,470
North America.....	558,413	799,839	1,121,391	2,032,924	3,844,324	6,502,012	12,883,255
South America.....	130,811	18,556	129,592	460,133	657,434	1,026,441	3,890,828
Asia.....	55,658	1,957,663	4,012,792	2,186,955	1,489,331	3,968,990	9,594,999
Oceania.....	171,407	177,849	538,674	421,264	412,636	1,882,833	4,391,510
Africa.....	16,606	40,280	80,170	220,230	87,742	454,150	2,143,678

\*Fiscal. †Calendar.

## Value of Automobile Parts Exported Annually

(Not Including Engines and Tires)

(Figures from U. S. Bureau of Foreign and Domestic Commerce)

Exported to	*1914	*1915	*1916	*1917	*1918	†1919	†1920
Europe.....	\$1,830,560	\$4,051,730	\$12,381,657	\$12,117,721	\$10,974,888	\$10,472,943	\$5,638,715
North America...	3,847,616	2,989,180	8,144,091	10,489,084	13,933,706	17,810,720	6,238,117
South America...	296,306	166,226	469,309	2,160,830	4,556,551	5,967,907	12,445,581
Asia.....	144,017	227,905	538,140	974,831	1,007,440	2,399,801	4,375,725
Oceania.....	334,956	293,888	637,761	1,165,703	1,558,764	2,017,527	3,946,801
Africa.....	170,777	124,254	365,527	512,744	901,657	1,209,597	2,737,154
<b>Total.....</b>	<b>\$6,624,232</b>	<b>\$7,853,183</b>	<b>\$22,536,485</b>	<b>\$27,420,913</b>	<b>\$32,933,006</b>	<b>\$39,878,495</b>	<b>\$35,382,093</b>

\*Fiscal years.

†Calendar years.

## Value of Automobile Tires Exported Annually

(Figures from U. S. Bureau of Foreign and Domestic Commerce)

Exported to	1914*	1915*	1916*	1917*	1918*	1919†	1920†
Europe.....	\$1,764,240	\$2,745,450	\$10,992,184	\$3,480,114	\$1,460,518	\$11,917,480	\$1,565,888
North America...	1,254,200	1,187,632	2,184,874	3,186,265	4,474,713	2,514,757	9,381,385
South America...	115,387	214,068	1,050,389	2,596,936	3,432,181	4,986,024	7,454,637
Asia.....	64,173	73,430	477,895	810,300	810,300	1,194,551	5,071,191
Oceania.....	279,327	702,877	2,896,401	1,832,244	2,662,422	1,804,887	6,210,978
Africa.....	27,940	39,813	334,475	424,342	753,286	694,943	2,880,240
<b>Total.....</b>	<b>\$3,505,267</b>	<b>\$4,963,270</b>	<b>\$17,936,227</b>	<b>\$12,330,201</b>	<b>\$13,330,201</b>	<b>\$48,585,550</b>	<b>\$2,564,319</b>

\*Fiscal years.

†Calendar years.

## Shipment of Automobiles to Non-Contiguous Territories

(Figures from U. S. Bureau of Foreign and Domestic Commerce)

Country	1916*		1917*		1918*		1919†	
	No.	Value	No.	Value	No.	Value	No.	Value
Alaska.....	114	\$102,426	152	\$141,128	15	\$23,059	90	\$81,135
Hawaii.....	1,903	1,900,926	1,891	1,802,413	119	183,994	1,611	1,874,318
Porto Rico.....	1,152	789,057	1,289	1,181,353	208	322,962	766	1,200,559
<b>Total.....</b>	<b>3,169</b>	<b>\$2,792,409</b>	<b>3,332</b>	<b>\$3,124,894</b>	<b>342</b>	<b>\$530,015</b>	<b>2,467</b>	<b>\$3,156,012</b>

1920†

Country	Passenger		Truck		Total Automobiles	
	No.	Value	No.	Value	No.	Value
Alaska.....	85	\$ 97,053	54	\$ 51,339	139	\$ 148,392
Hawaii.....	2,860	3,011,547	495	687,390	3,355	3,698,937
Porto Rico.....	1,544	2,075,173	427	1,064,207	1,971	3,139,380
<b>Total.....</b>	<b>4,489</b>	<b>\$5,183,773</b>	<b>976</b>	<b>\$1,802,936</b>	<b>5,465</b>	<b>\$6,986,709</b>

\*Fiscal years.

†Calendar years.

## Export of Automobiles 1911-1920

(Figures from U. S. Bureau of Foreign and Domestic Commerce. Calendar year figures 1911-17, compiled from Bureau records by General Motors Corp.)

Year Ended December 31	Passenger Cars		Motor Trucks		Passenger Cars and Motor Trucks	
	Number not given	Value separately	Number not given	Value separately	Number	Value
1911.....					15,807	\$15,924,361
1912.....					23,720	23,703,989
1913.....	25,880	\$25,342,644	1,009	\$1,686,807	26,889	27,029,451
1914.....	22,335	19,521,708	3,430	8,985,756	25,765	28,507,464
1915.....	41,864	35,045,090	22,094	59,839,303	63,958	94,884,393
1916.....	61,947	43,725,087	18,903	52,870,774	80,850	96,595,861
1917.....	65,756	51,872,905	14,479	36,775,230	80,235	88,687,857
1918.....	36,936	36,278,292	10,308	28,814,952	47,244	65,093,244
1919.....	67,085	73,650,427	15,569	35,385,069	82,654	109,035,496
1920.....	141,477	164,362,919	29,288	47,146,740	170,765	211,509,659

## Value of Automobile Engines Exported Annually

(Figures from U. S. Bureau of Foreign and Domestic Commerce)

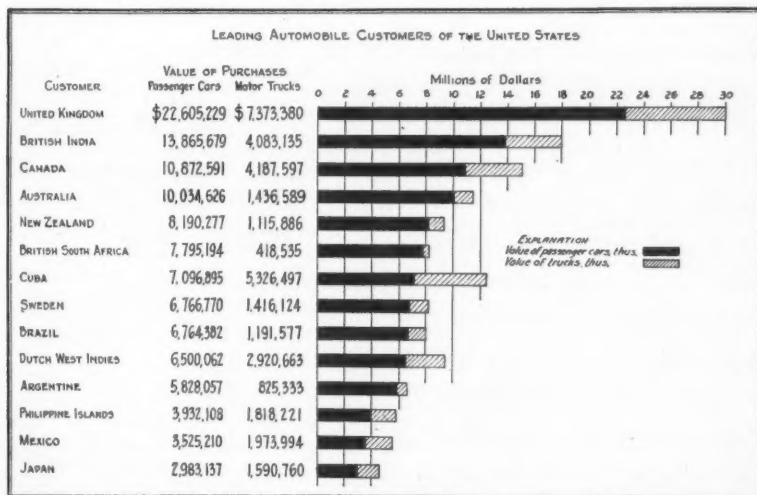
Exported to	1914*	1915*	1916*	1917*	1918*	1919†	1920†
Europe.....	\$1,310,951	\$1,332,144	\$1,519,200	\$992,321	\$641,992	\$102,578	**
North America...	71,837	72,232	1,102,618	1,809,343	2,751,671	4,529,914	**
South America...	1,140	2,084	4,781	1,062	722,172	8,752	**
Asia.....	2,431	345	267	1,664	2,075	50,645	**
Oceania.....	4,983	3,955	3,536	7,521	7,639	18,106	**
Africa.....	551	574	1,012	6,010	1,708	1,897	**
<b>Total.....</b>	<b>\$1,391,893</b>	<b>\$1,402,334</b>	<b>\$2,631,414</b>	<b>\$2,817,921</b>	<b>\$4,127,257</b>	<b>\$4,711,892</b>	<b>\$5,031,856</b>

\*Fiscal years.

†Calendar years.

\*\*Not compiled.

## BRITISH EMPIRE BUYS BULK OF U. S. EXPORTS





## IMPORT OF AUTOMOBILES

(Figures from U. S. Bureau of Foreign and Domestic Commerce)

Year Ended December 31	Pass. Cars and Motor Trucks Number	Value	Year Ended December 31	Pass. Cars and Motor Trucks Number	Value
1911.....	972	\$2,098,481	1916.....	149	770,319
1912.....	868	1,999,587	1917.....	78	112,440
1913.....	492	1,154,873	1918.....	73	39,733
1914.....	296	493,305	1919.....	117	123,025
1915.....	221	327,296	1920.....	926	1,026,518

## Automobile Exports of Leading Countries—1920

From	Passenger		Motor Trucks		Passenger Cars and Motor Trucks	
	No.	Value†	No.	Value†	No.	Value†
United States.....	141,477	\$164,362,919	29,288	\$47,146,740	170,765	\$211,509,659
France (1).....	17,860*	58,800,000*	8,989*	25,200,000*	26,849*	84,000,000*
Canada.....	18,070	13,576,179	4,994	3,059,056	23,064	16,635,235
Italy.....	6,216*	5,829,930*	6,200*	6,113,618*	12,416*	11,943,548*
England—not listed separately.....					8,449	25,617,328
Belgium—not listed separately.....					1,738	2,563,625
Switzerland—not listed separately.....					627 (2)	2,859,831*

\*Estimated from incomplete returns.

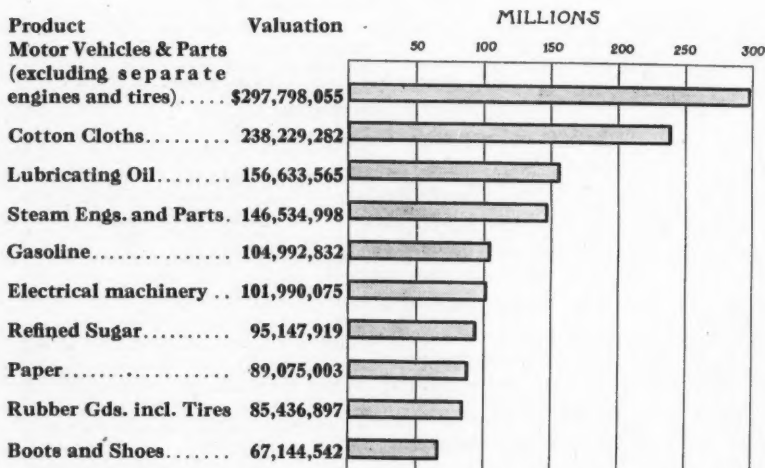
(1) French statistics are given by weight and number of vehicles. Figures were determined at an average weight of 2,750 lbs. for passenger cars and 4,400 lbs. for commercial vehicles.

(2) Average weight of a vehicle, commercial and passenger combined, was taken as 3,300 lbs. in approximation of Swiss statistics.

†Conversions, at average current rates in 1920:

France.....	1 fr.—\$.007	Belgium.....	1 fr.—\$.007
Italy.....	1 lira—.004	Switzerland.....	1 fr.—.016
England.....	1 £.—4.00		

## MOTOR VEHICLES LEAD IN EXPORT OF FINISHED PRODUCTS



## Uniformity of Motor Vehicle Legislation Makes Headway

It is no longer necessary to argue for uniformity in municipal ordinances regulating motor transportation within a state. It is no longer necessary to plead for uniformity in the state laws regulating motor vehicle transportation within and between our states. When it is realized that today there are nine million motor vehicles operating upon the highways of this country, and when it is further realized that the range of travel of most of these vehicles is no longer confined to the limits of a municipality or a state, it can be seen that the supporters of uniform vehicle legislation now numbers many millions of persons.

### Proposed Uniform Laws

Just as it is no longer necessary to contend for uniformity in motor vehicle legislation, so it is no longer necessary to argue the form which such legislation shall take. A special Joint Committee on uniform laws consisting of representatives from the American Association of State Highway Officials, National Automobile Chamber of Commerce, American Automobile Association and the Highway Industries Association has succeeded in preparing a so-called Proposed Uniform Vehicle Law, whose provisions are ideally suited for general adoption and enforcement by all of our states. Moreover, the Motor Vehicle Conference Committee has also prepared a measure entitled the Proposed Uniform Anti-Theft Law which, in a similar manner, goes far to supply the great need of motor vehicle owners today for protection in the enjoyment and ownership of their vehicles.

Already scores of thousands of copies of these two proposed measures have been placed in the hands of state officials, state law makers, municipal officials, municipal governing bodies, motor vehicle organizations, trade bodies and in numerous other quarters where their provisions are directly or indirectly of important concern. In consequence it is not necessary to discuss in detail the specific requirements of these two suggested uniform measures.

Their provisions are already known from one end of the country to the other.

### Have Stood Test

Of course with the promulgation of these proposed laws many criticisms of the measures were inspired. It is very significant to note, however, that most of these criticisms have had to do with technical details of the laws rather than with their fundamental principles. On the other hand, to be sure, some real defects and deficiencies have been pointed out and active steps are being taken to remedy these faults. On the whole, however, it is worthy of note that the bulk of the comment has been extremely enthusiastic and favorable, and that even the criticisms with few exceptions never touched any of the underlying principles of the Articles, Sections and Sub-Sections of the laws.

### Public Favorable

No greater evidence of approval of these measures by the public can be cited than the fact that while in 1920, eleven States meeting in regular session gave consideration to more than fifteen hundred motor vehicle-measures forty States already convened in 1921 and in session for several months have introduced hardly more than that number. Moreover, the bills introduced in scores of instances are based entirely upon or derive their inspiration from the Proposed Uniform Vehicle Law and Proposed Uniform Anti-Theft Law.

In view of these circumstances, therefore, the Motor Vehicle Conference Committee has reason to believe that the seeds for uniformity in State Motor Vehicle Laws have been planted in fertile ground and that during the coming years our State Law-Makers will see fit to nourish them carefully and bring them to ultimate fruition in measures which will be standard and uniform for all of the States of the Union. What this will mean for the convenience, comfort and safety, not alone for vehicular traffic but also for pedestrians, is incalculable.

# Size and Weight Restrictions in State Motor Vehicle Laws

## EFFECTIVE APRIL 1, 1921

(Numerous changes in this tabulation will doubtless come from 42 state legislatures holding sessions in 1921)

NOTE: In the following tabulations crosses (X) indicate that there are no state laws dealing with the subject. This does not mean, however, that counties, towns, and other political subdivisions of the state concerned are also without restrictions, or without the power to impose restrictions, upon the size and weight of the motor vehicles which may operate upon the highways within their jurisdictions. As a general rule, however, local ordinances contrary to the provisions of the state laws are forbidden or are unenforceable.

In the weight restrictions column the per inch width of tire limits fixed by the States of Illinois, Iowa, Kentucky and Vermont are based upon the measurement of the "nominal" width; in the case of Ohio and Virginia the measurement is based upon the actual width of the rim; in the case of Pennsylvania, in Pennsylvania "nominal" width; in the other instances no specific basis other than "per inch of tire width" is prescribed.

State	Size Restrictions	Weight Restrictions	Restriction in Number of Trailers	Special Permits
Alabama.....	.....X.....	20,000 lbs. gross weight.....	.....X.....	.....X.....
Arizona.....	.....X.....	.....X.....	.....X.....	.....X.....
Arkansas.....	.....X.....	.....X.....	.....X.....	.....X.....
California.....	Outside width of tread 112 in.; outside width of bed of vehicle and load 102 in.	30,000 lbs. gross weight for vehicle equipped with 4 wheels; 40,000 lbs. for one equipped with 6 wheels having its 3 axles at least 96 in. apart. On other than metal tires weight must be distributed not more than 800 lbs. per inch of tire width; on metal 600 lbs. State Department of Highways may reduce these limits in case of bridges, viaducts, etc.	.....X..... .....Two.....	On application in writing State Department of Engineering may grant permits to operate heavier or wider loads, or more than 2 trailers or increase the permissible weights per inch of tire width.
Colorado.....	.....X.....	.....X.....	.....X.....	.....X.....
Connecticut.....	Over-all width limited to 114 in.	25,000 lbs. gross weight distributed not more than 700 lbs. per inch of tire width for non-metal tires; metal tires 500 lbs. State Highway Commissioner may restrict use of commercial motor vehicles of over four tons capacity on trunk lines or State aid highways.	.....X.....	On application in writing State Highway Commissioner or other authority having charge of the repair or maintenance of any highway or bridge may grant permits, allowing operation of vehicles of more than restricted weight.
Delaware.....	Width of vehicle limited to 96 in.; height to 146 in.	25,000 lbs. gross weight distributed not more than 700 lbs. per inch of tire width. Gross load of metal-tired trailers limited to 6,000 lbs.	.....X.....	State Highway Department may issue special permit to operate vehicle exceeding weight limits.
Florida.....	.....X.....	.....X.....	.....X.....	.....X.....
Georgia.....	.....X.....	.....X.....	.....X.....	.....X.....
Idaho.....	.....X.....	.....X.....	.....X.....	.....X.....

Illinois.....	Width of vehicle and its load limited to 96 in. Combination of vehicle and trailers shall not exceed 65 ft.	16,000 lbs. gross weight limit for one axle distributed not more than 800 lbs. per inch width of tire.	X.....	Highway officials may grant permission for operation of vehicles heavier than restricted weight or for trailer trains longer than 65 feet.
Indiana.....	.....X.....	20,000 lbs. capacity	.....X.....	.....X.....
Iowa.....	Width of vehicle and load limited to 96 in.	28,000 lbs. gross weight for vehicle and load; 8,000 lbs. for any one wheel distributed not more than 800 lbs. per inch width of tire on hard surfaced highways and 400 lbs. for earth, gravel or similar surfaces.	.....X.....	.....X.....
Kansas.....	.....X.....	.....X.....	.....X.....	.....X.....
Kentucky.....	.....X.....	30,000 lbs. gross weight distributed not more than 800 lbs. per inch width of tire for non-metal tires; 500 lbs. for metal tires.	.....X.....	.....X.....
Louisiana.....	.....X.....	.....X.....	.....X.....	.....X.....
Maine.....	.....X.....	18,000 lbs. distributed not more than 800 lbs. per inch width of tire.	.....X.....	Highway officials may permit operation of motor trucks and trailers with weights over highways under their control.
Maryland.....	Width of vehicle 90 in.....	20,000 lbs. gross weight distributed not more than 650 lbs. per inch width of tire. Vehicles with rated carrying capacity of more than 10,000 lbs. not registrable.	.....X.....	Highway officials may grant permission to operate vehicles heavier than restricted weights on highways subject to their control.
Massachusetts..	Outside width 95 in.; over-all length of single vehicle 28 ft.; over-all length of combination of vehicles 65 ft.	28,000 lbs. gross weight distributed not more than 800 lbs. per inch width of tire.	.....X.....	Highway officials may grant permission to operate heavier or bigger units over the highways under their jurisdictions.
Michigan.....	Gauge of motor trucks and trailers limited to 75 in., measured from center of tire to center of tire. Over-all width 96 in. over-all height 12 ft. 6 in. Aggregate length of combination of vehicle 60 ft.	700 lbs. maximum load for tire 2 in. wide up to 3,200 lbs. for 7 in. tire on wheel of 32 in. in diameter. These maximums are greater for wheels of larger diameter, those for 44 in. wheels being one and six-tenths larger.	.....Two.....	.....X.....
Minnesota.....	.....X.....	.....X.....	.....X.....	.....X.....
Mississippi.....	.....X.....	.....X.....	.....X.....	.....X.....
Missouri.....	.....X.....	.....X.....	.....X.....	.....X.....
Montana.....	.....X.....	.....X.....	.....X.....	.....X.....
Nebraska.....	.....X.....	.....X.....	.....X.....	.....X.....
Nevada.....	.....X.....	.....X.....	.....X.....	.....X.....

(X) No state laws dealing with subject.

# Size and Weight Restrictions in State Laws (Continued from preceding page.)

State	Size Restrictions	Weight Restrictions	Restriction in Number of Trailers	Special Permits
New Hampshire	.....X.....	.....X.....	.....X.....	.....X.....
New Jersey.....	Length 26 ft. 6 in.; width 92 in.; height 12 ft. 6 in.	30,000 lbs. gross weight distributed not more than 800 lbs. per inch width of tire.	.....One.....	Highway officials may issue permits for operation of restricted vehicles over highways under their jurisdiction.
New Mexico.....	.....X.....	Rim or tire must be 3 inches or more wide if intended carrying capacity exceeds 2,000 lbs.	.....X.....	.....X.....
New York.....	Over-all width 96 in.; height 12 ft. 6 in. (Outside of cities.)	25,000 lbs. gross weight distributed not more than 800 lbs. per inch width of tire. (Outside of cities.)	.....X.....	.....X.....
No. Carolina...	.....X.....	11,000 lbs. capacity.	.....X.....	.....X.....
No. Dakota....	.....X.....	.....X.....	.....X.....	.....X.....
Ohio.....	.....X.....	Tires of rubber or other similar substances 800 lbs. per inch of width on all tires; tires of iron or steel 500 lbs. per inch up to and including 12 inches; total width, 800 lbs. per inch over 12 inches.	.....X.....	.....X.....
Oklahoma.....	.....X.....	.....X.....	.....X.....	.....X.....
Oregon.....	.....X.....	10,000 lbs. carrying capacity 600 lbs. per width of tire.	.....X.....	.....X.....
Pennsylvania...	Width over-all 90 in.; over-all length 336 in.	26,000 lbs. gross weight distributed not more than 19,500 lbs. on one axle nor more than 800 lbs. per inch of tire width.	.....X.....	State Highway Commissioner may issue permit for operation of restricted vehicles or more than one trailer.
Rhode Island...	.....X.....	Without special permit gross weight of trailer limited to 4,000 lbs.	.....X.....	State Board of Public Roads may issue permits for trailers with gross weight of more than 4,000 lbs.
So. Carolina....	.....X.....	8,000 lbs. capacity.	.....X.....	Highway authorities may grant permit for operation of heavier vehicle.
So. Dakota....	.....X.....	.....X.....	.....X.....	.....X.....
Tennessee.....	.....X.....	.....X.....	.....X.....	.....X.....
Texas.....	Width of body 84 in.	5,000 lbs. gross weight per wheel distributed not more than 500 lbs. per inch width of tire.	.....X.....	State Highway Department may issue permit for heavier or wider loads.
Utah.....	.....X.....	20,000 lbs. gross weight.	.....X.....	.....X.....

(X) No state laws dealing with subject.

Vermont.....	Width 96 in.; height 12 ft. 2 in.	12,500 lbs. in towns or incorporated villages, other places 10,000 lbs. gross weight distributed not more than 600 lbs. per inch of tire width.	.....One.....	Local authorities may issue permits to operate restricted vehicles over highways subject to their control.
Virginia.....	.....X.....	24,000 lbs. gross weight distributed not more than 700 lbs. per inch of tire width for solid tired vehicles.	.....X.....	.....X.....
Washington....	.....X.....	10,000 lbs. for load outside of cities of first or second class.	.....X.....	Cities of first and second class may by ordinance permit more than 10,000 lbs. for load within their borders.
W. Virginia....	Width 90 in.....	30,000 lbs. gross weight distributed not more than 600 lbs. per inch of tire width.	.....X.....	Highway officials may issue permit for operation of wider or heavier vehicles over highways subject to their control.
Wisconsin.....	Width over-all 96 in.; length 30 ft.	24,000 lbs. gross weight distributed not more than 18,000 lbs. per axle nor more than 800 lbs. per inch of tire width.	.....X.....	In cities of first class officials may issue permits for operation of trailer trains not exceeding 100 feet in length.
Wyoming.....	.....X.....	.....X.....	.....X.....	.....X.....
District of Columbia....	.....X.....	12,000 lbs. gross weight on bridges with wooden floors; 30,000 on any other bridges	.....One.....	Engineer Commissioner may issue written permits for operation of heavier vehicles over bridges.

(X) No state laws dealing with subject.

## RESTRICTIONS ADVOCATED BY PROPOSED UNIFORM VEHICLE LAW

Size	Weight	Number of Trailers	Special Permits
Width over-all 96 in.; height 12 ft. 6 in.; length 30 ft. for single vehicle; 85 ft. for combination of vehicles.	28,000 lbs. gross weight distributed not more than 22,400 lbs. on one axle nor more than 800 lbs. per inch of tire width measured between the flanges of the rim.	Any number within 85 ft. limit for combination.	Officials may issue permits for operation of restricted vehicles over highways under their control.

The foregoing restrictions are liberal enough to permit a state to take advantage of the economies which come from the use of the larger commercial motor vehicles; on the other hand they are low enough and of such a character that vehicular travel on the highways is amply safeguarded and highway foundations and surfaces fully protected from destruction. This is particularly true in the case of weight restrictions where a gross weight of 28,000 pounds distributed not more than 800 pounds per inch of tire width is advocated.

A special committee composed of representatives from the American Association of State Highway Officials, National Automobile Chamber of Commerce, American Automobile Association, and Highway Industries Association drafted the Proposed Uniform Vehicle Law in which these provisions among others are recommended for uniform adoption by all of the states. The Committee's experience and ability in matters of this sort and the long and painstaking efforts which they gave to the size and weight restriction phases of the subject should make their advice of particular value to state law-makers who may consider laws along these lines.

# Annual State Fees for Motor

(Information is based on State

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
Alabama.....	Registration fee in lieu of all taxes but does not prevent collection of ad valorem tax.	Less than 25 horsepower, \$11.25; 25 to 29 horsepower, \$18.75; 30 to 39 horsepower, \$26.25; 40 horsepower and over, \$30; electric cars, \$20; steam cars, \$25.	Capacity less than 1 ton, \$15; less than 2 tons, \$22.50; less than 3 tons, \$37.50; less than 4 tons, \$56.25; over 4 tons, \$75.
Arizona.....	Personal property.	25 horsepower and under, \$5; 26 to 40 horsepower, \$10; over 40 horsepower, \$15.	Same as passenger cars.
Arkansas.....	Personal property.	All motor vehicles, \$10.	Same as passenger cars.
California.....	Personal property.	Electric cars, \$5; all others, 40 cents per horsepower.	Equipped with pneumatic tires, same as passenger cars; others pay additional; less than 2 tons unloaded, \$5; 2 to 3 tons, \$10; 3 to 5 tons, \$15; over 5 tons, \$20.
*Colorado.....	Personal property.	One-half one per cent of cost of car to owner f. o. b. factory.	Capacity 1 ton, \$10; 2 tons, \$17.50; 3 tons, \$25; 4 tons, \$37.50; 5 tons, \$50. Above that \$25 per ton or fraction thereof.
Connecticut.....	Personal property.	50 cents per horsepower.	Capacity $\frac{1}{4}$ ton or less, \$11; 1 ton, \$15, and increasing to \$200 for 8 tons, and \$100 per ton for each ton additional.
Delaware.....	Registration fee in lieu of all taxes.	\$2 for each 500 pounds gross weight of car and load; passengers figured at 125 pounds each.	Same as passenger cars.
District of Columbia.....	Personal property.	24 horsepower or less, \$3; 25 to 30 horsepower, \$5; over 30 horsepower, \$10.	Same as passenger cars.
Florida <sup>1</sup> .....	Personal property.	22 horsepower or less, \$5; 23 to 27 horsepower, \$8; 28 to 35 horsepower, \$12; above, \$15. Any car seating 10 or more persons, \$100.	Capacity 1 ton or less, \$10; 1 to 2 tons, \$25; 2 to 4 tons, \$50; more than 4 tons, \$100.
Georgia.....	Personal property.	Less than 23 horsepower, \$11.25; above that, 60 cents per horsepower. Carrying more than 10 persons, \$75.	Capacity 1 ton, \$15; 1 $\frac{1}{4}$ tons, \$22.50; 2 tons, \$30; 2 $\frac{1}{2}$ tons, \$37.50; 3 tons, \$45; 3 $\frac{1}{2}$ tons, \$52.50; 4 tons, \$75; 5 tons, \$150; 6 tons, \$375; 7 tons, \$750; more than that \$1,125.
Idaho.....	Registration fee in lieu of all taxes.	All weighing less than 2,001 pounds, \$15; 2,001 to 3,000 pounds, \$20; 3,001 to 4,000 pounds, \$30; over 4,000 pounds, \$40.	Same as passenger cars.

\*Gasoline tax 1c per gallon.

1. Any county or municipality may charge an additional license tax not to exceed 50 per cent of State license tax on motor vehicle used for hire.

(Continued on



# Vehicle Registrations and Licenses

Acts in force April 1, 1921)†

MOTOR-CYCLES	DEALERS	OPERATORS	STATE
\$3; with side car attachment, \$5.	\$25 to \$125, according to size of county in which business is located.	Chauffeur, \$5; renewal, \$2.50; owner, none.	Alabama
\$2.	One vehicle of each class at passenger car rates; extra sets of plates 50 cents per set.	Chauffeur, \$5; owner, none. Perpetual.	Arizona
None.	\$10.	Chauffeur, \$1; owner, none.	Arkansas
\$2.	First set of plates, \$10; extra sets, \$5 per set; motorcycles, \$5.	Chauffeur, \$2; renewal, \$1; owner, none.	California
\$2.	\$20 for first car; \$2.50 each for next four; \$10 each above five. \$30 for first truck; \$10 each for next four; \$20 each above five.	Chauffeur, \$2; owner, none.	Colorado
\$2.	\$50 for 5 pair plates; additional plates \$10 per pair. Manufacturers, \$25 plus \$1 for each car tested on highway.	Chauffeur, \$2; owner, \$2; examination in each case, \$2.	Connecticut
\$5.	\$20 for 2 pairs of tags; extra tags, \$10 pair.	Chauffeur, \$3; owner, \$3; family, \$3.	Delaware
\$2.	Regular rates for each car demonstrated on public roads.	Chauffeur, \$2; owner, \$2. Perpetual.	Dist. of Columbia
\$2.	5 cars, \$15.	Chauffeur, \$2; owner, none.	Florida
\$5.	\$50 for 5 number plates.	Chauffeur, \$2; owner, none.	Georgia
\$5.	\$35 for one make and \$25 each additional make; motorcycles, \$15.	Chauffeur, \$2; owner, none.	Idaho

†NOTE: This tabulation does not include municipal impositions. It only deals with taxes, registration fees and license fees levied by State Governments and the District of Columbia. It does not record pro rata rates in states where deductions in fees are made for portions of a year. Moreover, the figures do not include impositions upon motor vehicles used for hire either as private or common carriers.

(two following pages)

# Annual State Fees for Motor

(Continued from

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
Illinois.....	Personal property.	25 horsepower or less, \$8; 26 to 35 horsepower, \$12; 36 to 50 horsepower, \$20; over 50 horsepower, \$25; electric cars, \$12.	Gross weight of vehicle and load less than 5,000 pounds, \$12; less than 12,001 pounds, \$22.50; less than 15,001 pounds, \$35; more than \$15,000 pounds, \$60.
Indiana.....	Personal property.	Electric cars, \$5; others, 25 horsepower or less, \$5; 26 to 40 horsepower, \$8; 41 to 50 horsepower, \$15; over 50 horsepower, \$20.	Capacity less than $\frac{1}{4}$ ton, \$6; less than ton, \$8; less than 2 tons, \$10; less than $3\frac{1}{2}$ tons, \$20; less than 5 tons, \$30; less than $7\frac{1}{2}$ tons, \$40; $7\frac{1}{2}$ tons or more, \$50.
Iowa.....	Registration fee in lieu of all taxes.	One per cent of value plus 40 cents per 100 pounds. Minimum fee, \$10.	Pneumatics with capacity 1 ton or less, \$15; $1\frac{1}{4}$ , \$22.50; 2, \$30; $2\frac{1}{4}$ , \$45; 3, \$65; $3\frac{1}{4}$ , \$90; 4, \$105; $4\frac{1}{4}$ , \$120; 5, \$135; 6, \$165. Solid tires same to 2 tons. $2\frac{1}{4}$ , \$55; 3, \$75; $3\frac{1}{4}$ , \$100; 4, \$115; $4\frac{1}{4}$ , \$130; 5, \$145; 6, \$175. \$50 per ton above 6 tons.
Kansas.....	Personal property.	All cars, \$5 each.	Same as passenger cars.
*Kentucky.....	Personal property.	60c per horsepower	$\frac{1}{4}$ ton capacity, \$22; $\frac{1}{4}$ to 1 ton, \$30; 1 to $1\frac{1}{4}$ tons, \$40; $1\frac{1}{4}$ to 2 tons, \$50; 2 to $2\frac{1}{4}$ tons, \$60; $2\frac{1}{4}$ to 3 tons, \$70; 3 to $3\frac{1}{4}$ tons, \$90; $3\frac{1}{4}$ to 4 tons, \$110; 4 to $4\frac{1}{4}$ tons, \$130; $4\frac{1}{4}$ to 5 tons, \$150. \$50 for each ton over 5.
Louisiana.....	Personal property.	25 cents per horsepower, with a minimum fee of \$5 per car.	All motor trucks, \$7.50 each.
Maine.....	Personal property.	15 horsepower or less, \$5; 16 to 35 horsepower, \$10; over 35 horsepower, \$15.	\$10 per ton rated carrying capacity up to 5 tons; \$15 per ton over 5 tons and up to 10 tons.
Maryland.....	Personal property.	60 cents per horsepower; minimum charge, \$10; \$1.20 per horsepower if operated for hire.	Solid tires to 3 tons capacity, \$20 per ton; 4 tons, \$100, and 5 tons, \$150; 6 tons, \$300; 7 tons, \$500; electrics, one-half of above rates.
Massachusetts....	Personal property	Under 20 horsepower, \$5; 20 to 29 horsepower, \$10; 30 to 39 horsepower, \$15; 40 to 49 horsepower, \$20; 50 horsepower and over, \$25.	\$10 per ton of capacity. Electrics one half.
Michigan.....	Personal property.	Electric cars \$1 for each motor horsepower plus 35 cents for each 100 pounds of weight; others, 25 cents per horsepower plus 35 cents for each 100 pounds of weight.	Electrics, \$1 per motor horsepower plus 35 cents for each 100 pounds of weight; others, 25 cents per horsepower plus 35 cents per 100 pounds of weight.
Minnesota.....	Personal property.	All cars, \$5.	Same as passenger cars.
Mississippi.....	Personal property.	Electric cars, \$15; others, 50 cents per horsepower. Minimum fee, \$5.	Carrying capacity 1 ton or less, \$10; increasing to \$250 for 6 tons capacity. Over 6 tons capacity, \$75 per ton, but not to exceed \$300.

\*Gasoline tax 1c per gallon.

(Continued on

## Vehicle Registrations and Licenses

*two preceding pages)*

MOTOR- CYCLES	DEALERS	OPERATORS	STATE
\$4.	\$12 for 2 plates and \$12 for each pair duplicates.	Chauffeur, \$5; renewal, \$3; owner, none.	.....Illinois
\$2.	\$25; duplicate plates, \$1 per set.	Chauffeur, \$2; owner, none.	.....Indiana
\$5.	\$25; duplicates, \$15.	Chauffeur, \$2; owner, none.	.....Iowa
\$2.	\$15 for 3 sets of tags; extra tags, 50 cents each.	Chauffeur, none; owner, none.	.....Kansas
\$10.	\$25 registration and 1 set of plates; extra plates \$1 per set.	Chauffeur, \$2; renewal, \$1; owner, none.	.....Kentucky
\$2.	1 regular registration for each make; second-hand dealers, \$10; duplicate plates, \$1 each.	Chauffeur, none; owner, none.	.....Louisiana
\$3.	\$25 for 5 pairs of plates; extra plates, 75 cents each.	Chauffeur, \$2; owner, \$2.	.....Maine
\$5, with side car, \$8.	\$25 for 2 sets of tags and \$12 for each additional set. For dealers in motorcycles, 4 tags, \$20; additional tags, \$5 each.	Chauffeur, \$3; owner, \$2. Perpetual.	.....Maryland
\$2.	\$10, motorcycles; \$25 for motor vehicles for 5 registrations and \$5 additional for each extra set of plates.	Chauffeur, \$2; examination, \$2; owner, \$2; renewal of both, \$1.	.....Massachusetts
(1).	\$30 for three cars and \$10 for each additional car; motorcycle, \$10 for five plates.	Chauffeur, \$2; owner, \$0.50. Perpetual.	.....Michigan
\$5.	\$20; extra plates, \$1 per set.	Chauffeur, \$1.50; renewal, \$1; owner, none.	.....Minnesota
\$10.	Regular rates for 4 sets of plates.	Chauffeur, none; owner, none.	.....Mississippi

(1) Same rate as passenger cars.

*two following pages)*

## Annual State Fees for Motor

*(Continued from*

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
Missouri.....	Personal property.	Less than 12 horsepower, \$4; 12 to 23 horsepower, \$6; 24 to 35 horsepower, \$10; 36 to 47 horsepower, \$14; 48 to 59 horsepower, \$16; 60 to 71 horsepower, \$20; 72 horsepower and over, \$24.	Same as passenger cars.
Montana.....	Personal property.	23 horsepower or less, \$5; 24 to 50 horsepower, \$10; over 50 horsepower, \$15.	1 ton capacity or less, \$5; over 1 ton and less than 2, \$15; over 2 tons and less than 3, \$25; over 3 tons, \$40.
Nebraska.....	Personal property.	Minimum fee, \$10; 50 cents extra per 100 pounds over 2,000 pounds for cars carrying 7 passengers or less.	Minimum fee \$10 plus 50 cents extra per 100 pounds of gross weight of vehicle and load over 2,000 pounds.
Nevada.....	Personal property.	35 cents per 100 pounds of rated weight plus carrying capacity based on 125 pounds per person.	35 cents per 100 pounds of weight of vehicle and rated load capacity.
New Hampshire..	None.....	15 horsepower or less, \$10; 16 to 30 horsepower, \$15; 31 to 40 horsepower, \$20; 41 to 60 horsepower, \$25; 51 to 60 horsepower, \$30; over 60 horsepower, \$40.	Same as passenger cars.
New Jersey.....	Personal property.	10 horsepower or less, \$4.50; 11 to 29 horsepower, \$7.50; 30 horsepower or over, \$15.	With solid tires, loaded weight $\frac{1}{4}$ ton or less, \$6, and \$3 additional for each one-half ton, gross weight to 2 tons, then \$4 for each additional ton.
*New Mexico....	Personal property.	40 cents per N. A. C. C. horsepower.	50 cents per N. A. C. C. horsepower.
New York.....	None.....	Constant fee 25 cents per horsepower; in addition, 40 cents for each \$100 of list price of car for first 3 years, 20 cents for each \$100 for fourth and fifth years and 10 cents for each \$100 after fifth year.	Gross loaded weight 2 tons or less, \$10; and \$5 each additional ton to 14; 14 tons, \$70, and \$10 each additional ton.
North Carolina...	Personal property.	26 horsepower or less, \$10; 26 to 30 horsepower, \$15; over 30 horsepower, \$20.	Carrying capacity of not more than 1 ton, \$12.50; 1 to 2 tons, \$25; 2 to 3 tons, \$40; 3 to 4 tons, \$65; 4 to 5 $\frac{1}{4}$ tons, \$100.
North Dakota....	Registration fee in lieu of all taxes.	5 mills on cost price, 20 cents per 100 pounds weight and 10 cents per horsepower. Electrica, \$2 in lieu of horsepower fee.	Same as passenger cars with extra fee based on carrying capacity as follows: \$3 per ton up to 3 tons; \$5 per ton from 3 to 4, and \$10 per ton above 4.
Ohio.....	Personal property.	25 horsepower or less, \$8; 26 to 35 horsepower, \$12; more than 35 horsepower, \$20. Electrica, \$8.	Same as passenger cars, with addition of 20 cents for each 100 pounds gross weight of vehicle and load.

\*Gasoline tax 2c per gallon.

*(Continued on*

## Vehicle Registrations and Licenses

*two preceding pages)*

MOTOR- CYCLES	DEALERS	OPERATORS	STATE
\$2.	\$10; for each duplicate set, \$5.	Chauffeur, \$1.50; owner, none.	.....Missouri
\$5.	Cars, \$50; motorcycles, \$15; six sets of plates.	Chauffeur, \$2; owner, none.	.....Montana
\$5.	Registration at regular rates; duplicate numbers, \$1.	Chauffeur, none; owner, none.	.....Nebraska
(1).	\$20 for 4 number plates; \$1 for each duplicate.	Chauffeur, none; owner, none.	.....Nevada
\$2.	Cars, \$50; six sets of plates; additional sets, \$5; motorcycles, \$5; three sets of plates.	Chauffeur, \$5; owner, \$3; renewal for both, \$1.00	...New Hampshire
\$2.	\$5 per car, not to exceed 5.	Chauffeur, \$3; owner, \$3.	.....New Jersey
\$3.	\$25 for five sets of plates and \$5 per set for extra sets.	Chauffeur, none; owner, none.	.....New Mexico
\$2.50.	\$15 plus \$5 for each duplicate set.	Chauffeur, \$5; renewal, \$2. In countries wholly included in a city, owner, \$2, renewal, \$1.	.....New York
\$5.	\$25, plus \$5 for each duplicate set of plates.	Chauffeur, none; owner, none.	....North Carolina
\$3.	\$15 for two sets of plates; extra plates, 50 cents per set.	Chauffeur, none; owner, none.	.....North Dakota
\$2.50; with side car, \$4.	\$20 for each place of business; \$2 per set of plates.	Chauffeur, none; owner, none.	.....Ohio

(1) Same rates as passenger cars.

*two following pages)*

## Annual State Fees for Motor

(Continued from

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
Oklahoma.....	Registration fee in lieu of all taxes.	\$10 on each vehicle the manufacturer's list price of which equals \$500 or less; if list price exceeds \$500 there shall be added to the \$10 seventy-five cents (75c) for each additional \$100 or fraction thereof.	Carrying capacity 1,500 pounds or less, \$15; 1,500 to 2,000 pounds, \$20; 2,000 to 3,000 pounds, \$25; 3,000 to 4,000 pounds, \$40; 4,000 to 6,000 pounds, \$60; 6,000 to 8,000 pounds, \$100; over 8,000 pounds, \$300.
*Oregon.....	None.....	Electric, \$18; 23 horsepower or less, \$15; 24 to 26 horsepower, \$22; 27 to 30 horsepower, \$28; 31 to 36 horsepower, \$36; 37 to 40 horsepower, \$48; over 40 horsepower, \$56.	Carrying capacity up to 1 ton on passenger car basis: 1 to 1½ tons, \$32; 1½ to 2 tons, \$48; 2 to 2½ tons, \$60; 2½ to 3 tons, \$72; 3 to 3½ tons, \$84; 3½ to 4 tons, \$96; 4 to 4½ tons, \$108; 4½ to 5 tons, \$120. Electrics, \$25. under 1 ton.
Pennsylvania.....	None.....	40 cents per horsepower; minimum, \$10.	Less than 2,000 pounds, 40 cents per horsepower; up to 3,000 pounds, \$20; up to 4,500 pounds, \$25; up to 6,000 pounds, \$30; up to 7,000 pounds, \$50; up to 8,000 pounds, \$75; up to 10,000 pounds, \$100; more than 10,000 pounds, \$150. Chassis basis of weight.
Rhode Island....	Personal property by cities and towns.	15 horsepower or less, \$5; 16 to 30 horsepower, \$10; 31 to 40 horsepower, \$15; over 40 horsepower, \$25.	Carrying capacity 1 ton or less; \$7, with \$3 additional for each ton to 4 tons, and then \$4 for each ton above 4 tons; over 9 ton capacity, \$40 each.
South Carolina...	Personal property.	25 cents per horsepower.	Less than 2 tons capacity, \$15; 2 to 3, \$30; 3 to 4, \$50; 4 to 5, \$75; 5 to 6, \$150; 6 to 7, \$250; 7 tons and over, \$350.
South Dakota....	Personal property.	All cars \$6 each.	Capacity 2 tons or less, \$6; 3½ tons, \$10; above 3½ tons, \$15.
Tennessee.....	None.	50 cents per horsepower. Electrics, \$25.	Electrics \$25; others 50 cents per horsepower plus; \$5 per ton carrying capacity.
Texas.....	Personal property.	35 cents per horsepower; minimum fee, \$7.50.	Carrying capacity up to 4,000 pounds, \$16; up to 6,000 pounds, \$32; up to 8,000 pounds, \$48; up to 10,000 pounds, \$80; \$100 for each additional 1,000 pounds of carrying capacity. Interurban vehicles double these rates.
Utah.....	Personal property.	Electric cars, \$10; others, 25 horsepower and less, \$5; 26 to 40 horsepower, \$10; above 40 horsepower, \$15.	Solid tires based on gross weight 1 ton, \$10; 2 tons, \$15; 3 tons, \$22.50; 4 tons, \$30; 5 tons, \$37.50; 6 tons, \$45; 7 tons, \$52.50; 8 tons, \$60; 9 tons, \$67.50; 10 tons, \$75. Pneumatic tires, two-thirds of above rate; minimum, \$10.

\*Gasoline tax 1c per gallon; distillate ¾c per gallon.

1. Any county or municipality may charge an additional license tax not to exceed 50 per cent of State license tax on motor vehicle used for hire.

(Continued on

## Vehicle Registrations and Licenses

*two preceding pages)*

	MOTOR- CYCLES	DEALERS	OPERATORS	STATE
(1).		\$25 for 2 sets of plates and \$25 for each additional set.	Chauffeur, none; owner, none.	.....Oklahoma
\$6.		\$30 for first set of plates; \$5 for each additional set.	Chauffeur, \$4; owner, none.	.....Oregon
\$3.		Cars, \$10 per set; motorcycles, \$5 per plate.	Chauffeur, \$2; owner, none.	.....Pennsylvania
\$2.		\$25 for 5 sets of plates and \$5 for each additional set.	Chauffeur, \$1; owner, \$1.	.....Rhode Island
(1).		\$15 for each make.	Chauffeur, none; owner, none.	... South Carolina
\$3.		Cars, \$25; motorcycles, \$5; six plates.	Chauffeur, none; owner, none.	.....South Dakota
(1).		\$25.	Chauffeur, none; owner, none.	.....Tennessee
\$3.		\$15; extra numbers \$5 each.	Chauffeur, \$3; owner, none.	.....Texas
\$3.		\$25, and \$4 for each set of duplicate plates.	Chauffeur, \$2; owner, none.	.....Utah

(1) Same rate as passenger cars.

*two following pages)*



## Annual State Fees for Motor

(Continued from

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
Vermont.....	Registration fee in lieu of all taxes.	First registration, \$1 per horsepower; second, 75 cents per horsepower; third, registration and thereafter, 50 cents per horsepower.	Carrying capacity 1 ton, \$20; 1½ tons, \$30; 2 tons, \$40; 2½ tons, \$50; 3 tons, \$75; 4 tons, \$100; each additional ton or fraction on above 4 tons, \$25.
Virginia.....	Personal property.	60 cents per horsepower. Minimum fee, \$10.	\$15 for first ton carrying capacity and \$5 for each additional ¼ ton.
Washington.....	Personal property.	1,500 pounds or less, \$10; more than 1,500 pounds, \$10 plus 60 cents per 100 pounds.	Vehicle weighing 1,500 pounds or less, \$10; more than 1,500 pounds but less than 6,500 pounds, \$10 plus 40 cents per 100 pounds for weight over 1,500 pounds plus 40 cents per 100 pounds rated capacity load. More than 6,500 pounds, \$10 plus 50 cents per 100 pounds for weight over 1,500 pounds plus 50 cents per 100 pounds of rated capacity load.
West Virginia....	Personal property.	Cars weighing 1 ton or less, \$10, and 25 cents additional for each 100 pounds over 1 ton.	Pneumatics same as passenger cars. Solid tires: Capacity 1 ton, \$15; 2½ tons, \$25; 3½ tons, \$40; 5 tons, \$75; 7 tons, \$125; over 7 tons, \$200.
Wisconsin.....	Personal property.	All cars \$10 each.	Capacity less than 2,100 pounds, \$15; 2,100 to 5,100 pounds, \$20; 5,100 pounds or more, \$25.
Wyoming.....	Personal property.	40 cents per horsepower.	75 cents per 100 pounds maximum weight of vehicle fully equipped.

## Annual Fees Advocated by

STATE	GENERAL TAX	PASSENGER CARS	MOTOR TRUCKS AND COMMERCIAL CARS
All.....	Annual fees to be in lieu of all other State or local taxes.	25 cents per horsepower, plus 25 cents per 100 pounds gross weight of vehicle and load for vehicles equipped with pneumatic tires; 35 cents per 100 pounds for solid rubber and 50 cents per 100 pounds for iron, steel or other hard tires.  Used for transportation of persons for hire, double the above rates.  Gross weight to be regarded as actual weight of the vehicle, plus the sum of the adult seating capacity multiplied by 150 pounds.	Same as for passenger cars. Gross weight to be regarded as actual weight of the vehicle, plus the manufacturer's rated load capacity.

## Vehicle Registrations and Licenses

two preceding pages)

MOTOR- CYCLES	DEALERS	OPERATORS	STATE
(1).	\$50.	Chauffeur, \$3; owner, \$2. Examination fee \$2 extra.	.....Vermont
(1).	\$50 for three sets of plates; additional sets, \$15.	Chauffeur, \$5; owner, none.	.....Virginia
\$6.	Cars, \$50; motorcycles, \$10; extra plates \$10 per set.	Chauffeur, none; owner, none.	.....Washington
\$5.	Cars, \$15 per set of plates; motorcycles, \$5.	Chauffeur, \$3; owner, none.	.....West Virginia
\$4.	\$25 for 2 sets of plates.	Chauffeur, none; owner, none.	.....Wisconsin
\$5.	\$50 for one number plate and one duplicate; additional du- plicates \$2.	Chauffeur, none; owner, none.	.....Wyoming
(1) Same rates as passenger cars.			

## Proposed Uniform Vehicle Law

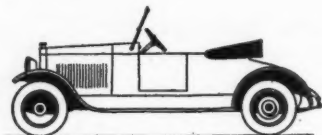
MOTOR- CYCLES	DEALERS	OPERATORS	STATE
\$5.	Registration and first 5 sets of plates, \$25. Additional sets, \$2 per set.	Chauffeurs and Owners \$2 each. Perpetual.	.....All

**NOTE:** The Special Committee which drafted the Proposed Uniform Vehicle Law selected horse-power and gross weight of motor vehicles as the proper bases for registration fees because of the relationship which these factors bear to the wear of vehicular travel upon highways.

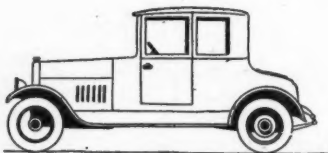
The Proposed Uniform Vehicle Law further recommends that the proceeds from these fees be used exclusively for highway purposes. In this connection the Motor Vehicle Conference Committee believes that these highway purposes should only include maintenance and repair of highways properly located and adequately built to carry motor vehicle transportation efficiently and economically. The Conference Committee regards as unsound and inequitable the use of such money for capital outlays involved in highway construction and reconstruction.

## Definition of Car Body Styles

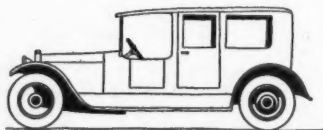
(By George W. Sutton, Jr.,  
Automotive Editor of Vanity  
Fair. Drawings by courtesy  
of Vanity Fair.)



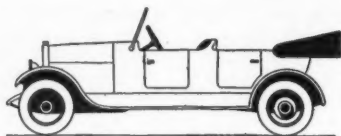
**ROADSTER** (above)—A car with one permanent seat for two or three people.



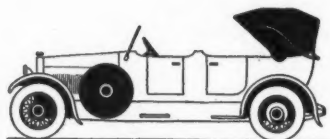
**COUPE** (above)—A car with a permanent top enclosing all passengers and (a) a single permanent seat for two people, or (b) a single permanent seat for the driver and, behind him, a single permanent seat for two.



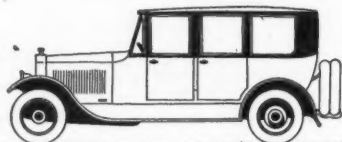
**LIMOUSINE** (above)—A car with a compartment for passengers in the permanent rear seat for two or three, a permanent front seat outside for one or two and a permanent roof extending over the front seat.



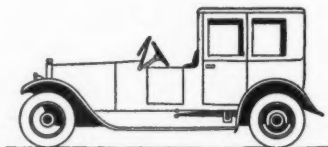
**TOURING CAR** (above)—A car with two permanent seats facing forward for four or five passengers.



**VICTORIA TOURING CAR** (above)—A touring car with folding or permanent Victoria top to cover the passengers in the rear seat.

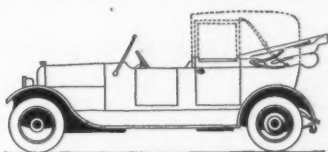
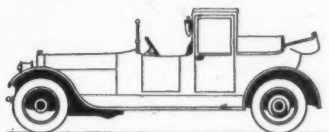


**SEDAN** (above)—A car with two permanent seats facing forward for four or five passengers and a permanent roof enclosing all in one compartment.



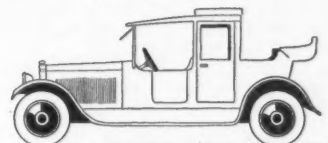
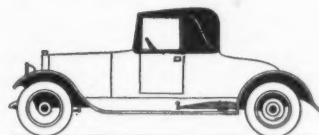
**BROUGHAM** (above)—A car with a permanent compartment enclosing the passengers in the rear seat, for two or three people and a permanent front seat for one or two with no permanent roof over the driving seat.

**CABRIOLET (right)**—A car of the brougham type with a top which is fully collapsible, folding or disappearing pillars and windows which sink out of sight into slots, so that, in the open position this car has the characteristics of a touring car.



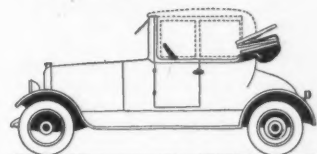
**LANDAULET (left)**—A car with compartment enclosing two or three passengers on the rear seat and a permanent seat without roof for one or two outside, but in which the rear part of the compartment, only, can be folded back.

**LIMOUSINE-LANDAULET (right)**—A car of the limousine type in which the rear part of the compartment can be folded down.



**COUPE-LANDAULET (or LANDAULET-ROADSTER) (left)**—A car with one seat for two or three passengers or a driver's seat and a seat behind him for two, with a rigid top, the rear part of which can be folded back.

**COUPELET (right)**—A car with a collapsible top, pillars which fold or disappear and windows which can be dropped into slots and (a) a single permanent seat for two or three, or (b) a single compartment for the driver and, behind him, a permanent seat for two.



## ADDITIONAL DEFINITIONS

**SALON TOURING CAR**—A touring car with a passage between the front seats, with or without separate entrance to the front seats.

**VICTORIA**—An obsolete type of open car with two seats facing forward and no doors.

**TOURING (or OPEN) BROUGHAM**—A brougham with folding or disappearing window pillars and windows which can be dropped completely into slots.

**CLOVERLEAF ROADSTER**—A car for three or four people with two single separated front seats facing forward and a seat in the rear facing forward for one or two, the rear seat reached through a division between the front seats.

**SEDAN-LANDAULET**—A car of the sedan type, the rear part of whose top can be folded back.

**TOURING (or OPEN) LIMOUSINE**—A limousine with folding or disappearing pillars and windows which can be dropped into slots.

**BERLINE LIMOUSINE**—A practically obsolete type of limousine in which there are two permanent compartments, one for passengers on the rear seat and the other fully enclosing the driver's seat.

**TOURING (or OPEN) SEDAN**—A sedan with windows which drop into slots and folding or disappearing pillars.

**SEDAN-LIMOUSINE (or SUBURBAN)**—A sedan with an adjustable window behind the driving seat.

**TOURING (or OPEN) SEDAN-LIMOUSINE (or TOURING SUBURBAN)**—A sedan-limousine (or Suburban) with windows which can be dropped completely into slots and pillars which can be folded or otherwise hidden for fair weather driving.

**TOWN CAR**—A term embracing the brougham, landaulet and cabriolet.

## ADDENDA

The only difference between a coupe, a coupelet and a coupe-landaulet lies in the folding feature of the top. This also applies to the brougham, landaulet and cabriolet and to all of the compound names in which the word "landaulet" appears.

The only fundamental difference between a limousine and a brougham is determined by the fixed roof over the driver in the former.

Auxiliary seats for extra passengers are frequently added to nearly all these cars without changing their basic types.

## Associations of the Automobile Industry

### National Automobile Chamber of Commerce

**GENERAL OFFICES:** Marlin-Rockwell Building, 366 Madison Avenue, at 46th Street, New York, N. Y.

**PRESIDENT:** Charles Clifton, Chairman of the Board of Pierce-Arrow Motor Car Company, Buffalo, N. Y.

**GENERAL MANAGER:** Alfred Reeves.

The National Automobile Chamber of Commerce is the successor of the National Association of Automobile Manufacturers, organized in November, 1900, and of the Automobile Board of Trade.

**OBJECTS:** To promote the interests of those engaged in automobile manufacture, and to develop the use of the motor vehicles as a motor transport unit of maximum public service.

Through its organization, committees, and departments the N. A. C. C. works along the following lines:

Diffusion of information as to inventions, patents, state of the art, and conditions of trade in which members are engaged:

Acquiring, holding and disposing of property including patents and rights for the benefit of members but not for the profit of the Chamber.

Securing equitable railroad rates and service.

Opposing unjust legislation, and recommending constructive uniform laws concerning fees, insurance and traffic.

Encouraging the extension of foreign trade, and investigating the possibilities of markets abroad.

Management of two annual automobile shows, one in New York and one in Chicago.

Urging the construction of better highways.

Recommending a definite and equitable program for federal taxation.

Furthering standardization in engineering and manufacturing for the ultimate benefit of the public.

Developing improved methods of servicing cars and trucks.

Settling differences between members.

Promoting and enlarging friendly intercourse among men in the industry.

Co-operating with allied associations in the industry for the common good.

Investigating motor vehicle market conditions.

Developing complete statistics on the production, distribution and use of the motor cars and motor trucks.

**Membership:** Passenger car makers, 88; truck makers, 62. More regarding the Chamber's organization, committees and membership will be found on pages 86-93.

### Motor and Accessory Manufacturers Association

**GENERAL OFFICES:** Aeolian Building, 33 West 42nd Street, New York.

**PRESIDENT:** E. H. Broadwell, Fisk Rubber Co., Chicopee Falls, Mass.

**GENERAL MANAGER:** M. L. Heminway.

National organization representing interests of automotive parts and equipment manufacturers. Association has automobile show, credit, educational, and traffic departments, and Advertising Managers Council. Field secretary has been appointed to keep in direct touch with members.

### National Automobile Dealers' Association

**GENERAL OFFICES:** 603-4 Rialto Theatre Building, St. Louis, Mo.

**PRESIDENT:** Jesse A. Smith, Milwaukee, Wis.

**SECRETARY AND GENERAL MANAGER:** Harry G. Moock.

Object is promotion of automobile dealer business, constructive publicity on dealer aims, maintenance of high merchandising standards, research on the magnitude of the business, study of markets and dissemination of facts concerning the same, opposition to harmful legislation, support of good legislation, promotion of good roads. Membership approximately 5000.

### Society of Automotive Engineers

**GENERAL OFFICES:** 29 West 39th St., New York City.

**PRESIDENT:** David Beecroft, Class Journal Co., New York, N. Y.

**SECRETARY AND GENERAL MANAGER:** Coker F. Clarkson.

Object of society is to promote the arts,

sciences, standards, and engineering practices connected with the design and construction of automobile and other automotive vehicles and apparatus, of all forms of self-propelled or mechanically propelled mediums for the transportation of passengers or freight, and prime-movers. Publications are *Transactions*, (semi-annual), *Year Book*, *Journal* (monthly), and *Hand Book of Data Sheets*, including *Standards and Recommended Practices* (revised semi-annually). Nearly three hundred distinct mechanical and material standards, specifications, mounting dimensions of parts and accessories have been established by S. A. E. Membership over 5000.

### **American Automobile Association**

GENERAL HEADQUARTERS: Albee Building, Washington, D. C.

NEW YORK CITY OFFICES: 501 Fifth Avenue.

PRESIDENT: David Jameson, Pennsylvania.

EXECUTIVE CHAIRMAN: A. G. Batchelder.

Composed of associations and clubs throughout the country and thousands of individual members, the A.A.A. is now well on its way toward a half million membership. It was organized at Chicago, in March, 1902. Its objects, briefly stated, are:

To unite in one body all the automobile clubs and individual motorists of the country.

To secure reasonable and just legislation and to aid in proper enforcement of automobile laws and ordinances.

To obtain local, State, and Federal aid in the construction and maintenance of good roads.

To encourage road travel and transportation, and to secure, prepare, and disseminate information relative thereto.

To support sportsmanlike contests and other movements that will advance motoring interests.

### **Rubber Association of America**

GENERAL OFFICES: 52 Vanderbilt Avenue, New York City.

PRESIDENT: Harry T. Dunn.

SECRETARY AND GENERAL MANAGER: A. L. Viles.

A national trade organization embracing rubber manufacturers, importers, brokers and dealers in crude rubber, reclaimers and supply manufacturers of the United States and Canada.

Its membership consists of more than four hundred firms, and its object is to promote in all lawful ways the commercial interests of its members, and secure the advantages to be obtained through mutual co-operation, also to stimulate social intercourse among those connected with the rubber industry and commerce and in general for the promotion of the welfare of the rubber industry.

Its work is largely carried on through the media of "Divisions" or "Committees" constituted of the members of the Association engaged in a particular branch of the rubber industry.

### **Motor Vehicle Conference Committee**

OFFICES: Room 1408, Marlin-Rockwell Building, 366 Madison Avenue at 46th Street, New York City.

The Motor Vehicle Conference Committee, created the early part of 1920, is composed of representatives from the following organizations: American Automobile Association, Motor and Accessory Manufacturers Association, National Automobile Chamber of Commerce, National Automobile Dealers Association, Rubber Association of America and the Trailer Manufacturers Association of America.

This Committee acts as a clearing house for the problems which, in increasing numbers, are confronting the individual members of its component organizations.

### **Trailer Manufacturers' Association of America**

GENERAL OFFICES: Grand Central Palace, New York.

PRESIDENT: J. H. Fertig, Newark, N. Y.

GENERAL MANAGER: L. G. Meldran.

Object is: To promote the trailer industry, foster and encourage the introduction and use of trailers, further construction and maintenance of good roads, aid in securing uniform laws relating to use of trailers, and to gather and disseminate information regarding these activities.

### **Automotive Equipment Association**

GENERAL OFFICES: 1818 City Hall Square Building, Chicago, Ill.

(Continued on following page)

## ASSOCIATIONS OF AUTOMOBILE INDUSTRY

(Continued from preceding page)

**PRESIDENT:** R. A. Stranahan, Toledo, Ohio.

**EXECUTIVE CHAIRMAN:** Wm. M. Webster, Chicago, Ill.

The organization is international in its scope.

**OBJECT:** To promote and create a friendly and harmonious relation between manufacturers, jobbers, dealers and garage

men and all organized effort incident to or connected with the Automotive Industry, including automobiles, trucks, tractors, air motors, etc.; to encourage legislation, local, State and National, in the advancement of the automotive interests; for the making of better roads; to collect, collate and disseminate information of interest to the trade generally.

## Automotive Schools in U. S. A.

(From Chilton Automobile Directory, Y. M. C. A., and National Workmen's Compensation Service Bureau.)

### ARIZONA

Y. M. C. A., Bisbee.

### ARKANSAS

Y. M. C. A., Little Rock.

### CALIFORNIA

National Automotive School, 807-811 So. Figueroa St., Los Angeles.

Y. M. C. A., Los Angeles.

Heald's Engineering & Auto School, Van Ness and Post Streets, San Francisco.

Y. M. C. A., San Francisco.

### COLORADO

Denver Automobile & Tractor School, Denver.

Y. M. C. A., Denver.

### CONNECTICUT

Y. M. C. A., Hartford.

Y. M. C. A., New London.

### DISTRICT OF COLUMBIA

National Auto College, 1341 9th St. N. W., Washington.

Y. M. C. A., Washington.

### HAWAII

Y. M. C. A., Honolulu.

### ILLINOIS

American School of Correspondence (Correspondence Course), 58th St. and Drexel Ave., Chicago.

Greer School of Automobile, Tractor and Airplane Engineering, 1519 Wabash Ave., Chicago.

Y. M. C. A., Moline.

Y. M. C. A., Granite City.

### INDIANA

Y. M. C. A., Indianapolis (Central Branch).

Y. M. C. A., Marion.

### IOWA

Y. M. C. A., Davenport.

Iowa State Auto & Tractor School, Sioux City.

### KANSAS

Hutchinson Auto & Tractor School, Hutchinson.

### KENTUCKY

Y. M. C. A., Louisville (Central Branch).

### MASSACHUSETTS

Y. M. C. A., Boston.

Y. M. C. A., Brockton.

Y. M. C. A., Lynn.

Y. M. C. A., Pittsfield.

Y. M. C. A., Worcester.

### MICHIGAN

Crown Auto School, Detroit.

Michigan State Auto School, 3729 Woodward Ave., Detroit.

Y. M. C. A., Detroit.

Y. M. C. A., Flint.

Y. M. C. A., Grand Rapids.

Y. M. C. A., Lansing.

### MINNESOTA

Y. M. C. A., Duluth.

Y. M. C. A., Minneapolis.

Modern Automobile & Tractor Schools, Inc., St. Paul.

Y. M. C. A., St. Paul.



## MISSOURI

Kansas City Auto and Tractor School,  
Kansas City.  
Rahe Auto & Tractor School, 2nd and  
Oak Streets, Kansas City.  
Sweeney Automobile School, 227 W.  
57th St., Kansas City.  
G. L. Dike (Correspondence Course)  
613 Granite Bldg., St. Louis.  
Y. M. C. A., St. Louis.

## MONTANA

Montana Automobile School, 125 South  
Main Street, Butte, Montana.

## NEBRASKA

Lincoln Tractor and Auto School,  
24th & O Sts., Lincoln.  
Y. M. C. A., Omaha.

## NEW JERSEY

Y. M. C. A., Camden.  
Y. M. C. A., Newark.  
Y. M. C. A., Passaic.

## NEW YORK

Atkinson Automobile School, 235 West  
50th St., New York.  
Stewart Automobile School, 225 West  
57th St., New York.  
Y. M. C. A., 318 West 57th St. (West  
Side Branch), New York.  
(East Side Branch), 153 East 86th St.,  
New York.  
Y. M. C. A. (Bedford Branch),  
Brooklyn.  
New Way Automobile School, 872  
Willoughby Ave., Brooklyn.  
Y. M. C. A., Buffalo.  
National Automobile School, Rochester.  
Y. M. C. A., Saratoga Springs.  
Y. M. C. A., Syracuse.

## NORTH DAKOTA

Hanson's Tractor & Auto School,  
62 3rd St., N. Fargo.

## OHIO

Y. M. C. A., Canton.  
Ohio Mechanics Institute, Cincinnati.  
Y. M. C. A., Cincinnati.  
Cleveland Automobile School, 1815  
East 24th St., Cleveland.  
Y. M. C. A., Columbus.  
Y. M. C. A., Dayton.  
Y. M. C. A., Marietta.  
Y. M. C. A., Toledo.  
Y. M. C. A., Youngstown.

## OKLAHOMA

Oklahoma City Automobile School,  
1218 N. Western Ave., Oklahoma  
City.

## OREGON

Y. M. C. A., Portland.

## PENNSYLVANIA

Y. M. C. A., Erie.  
Petz Automobile School, N. 16th St.,  
Philadelphia.  
Spring Garden Institute, Broad &  
Spring Sts., Philadelphia.  
Y. M. C. A. (Central Branch),  
Philadelphia.  
Y. M. C. A. (East Liberty Branch),  
Pittsburgh.  
International Correspondence School,  
Scranton, Pa.

## RHODE ISLAND

Y. M. C. A., Providence.

## TENNESSEE

Y. M. C. A., Knoxville.  
Automobile College of Nashville,  
Nashville.

## TEXAS

American Automotive School, 101 N.  
Haskell Ave., Dallas.  
Y. M. C. A., Dallas.  
Y. M. C. A., El Paso.  
Y. M. C. A., Fort Worth.  
International Auto School, 707 So.  
Flores St., San Antonio.  
Sherman Automobile & Tractor School,  
Sherman.

## UTAH

Hemphill Bros. Automobile School,  
Salt Lake City.

## VIRGINIA

Y. M. C. A., Lynchburg.  
Y. M. C. A., Newport News.

## WASHINGTON

Modern Automobile & Tractor Schools,  
Inc., Seattle.  
Seattle Engineering School, Inc., 100  
Saint Roy St., Seattle.  
Y. M. C. A., Seattle.  
Modern Automobile & Tractor Schools,  
Inc., Spokane.  
Hemphill Bros. Automobile School,  
Tacoma.

---

In addition to these primarily auto-  
motive schools there are 72 Knights of  
Columbus Evening Schools in large cities  
of the country, giving automobile me-  
chanics courses.

# Organization of National Automobile Chamber of Commerce, Inc.

Marlin-Rockwell Building, 366 Madison Ave. at 46th St., New York City, U. S. A.

Washington, D. C.  
Albee Building

Detroit, Mich.  
Ford Building

## OFFICERS

CHARLES CLIFTON, <i>President</i> .....	Pierce-Arrow Motor Car Company
R. D. CHAPIN, <i>Vice-President</i> .....	Hudson Motor Car Company
C. C. HANCH, <i>Second Vice-President</i> .....	H. C. S. Motor Car Company
Passenger Car Division	
WINDSOR T. WHITE, <i>Second Vice-President</i> .....	White Motor Company
Motor Truck Division	
A. J. BROUSSEAU, <i>Secretary</i> .....	Mack Bros. Motor Car Company
H. H. RICE, <i>Treasurer</i> .....	General Motors Truck Company

## BOARD OF DIRECTORS

A. J. BROUSSEAU.....	Mack Bros. Motor Car Company
R. D. CHAPIN.....	Hudson Motor Car Company
CHARLES CLIFTON.....	Pierce-Arrow Motor Car Company
J. WALTER DRAKE.....	Hupp Motor Car Corporation
A. R. ERSKINE.....	Studebaker Corporation
C. C. HANCH.....	H. C. S. Motor Car Company
F. J. HAYNES.....	Dodge Brothers
H. M. JEWETT.....	Paige-Detroit Motor Car Company
ALVAN MACAULEY.....	Packard Motor Car Company
W. E. METZGER.....	Columbia Motors Company
R. E. OLDS.....	Reo Motor Car Company
H. H. RICE.....	General Motors Truck Company
W. C. SILLS.....	Chevrolet Motor Company
WINDSOR T. WHITE.....	White Motor Company
JOHN N. WILLYS.....	Willys-Overland Company

## EXECUTIVE OFFICERS

ALFRED REEVES, <i>General Manager</i> .....	National Automobile Chamber of Commerce
J. S. MARVIN, <i>Assistant Gen. Manager</i> .....	National Automobile Chamber of Commerce
S. A. MILES, <i>Show Manager</i> .....	National Automobile Chamber of Commerce

## COMMITTEES

### ELECTRIC VEHICLE COMMITTEE

W. C. ANDERSON, <i>Chairman</i> .....	Detroit Electric Car Company
H. W. SUYDAM.....	Milburn Wagon Company

### FOREIGN TRADE COMMITTEE

J. WALTER DRAKE, <i>Chairman</i> .....	Hupp Motor Car Corporation
PETER S. STEENSTRUP.....	General Motors Export Company

H. M. ROBINS.....Dodge Brothers  
 JAY RATHBUN.....White Motor Company  
 L. J. OLLIER.....Studebaker Corporation  
 H. B. PHIPPS.....Hudson Motor Car Company  
 E. C. MORSE.....John N. Willys Export Corporation  
 GEORGE F. BAUER, *Secretary*.....National Automobile Chamber of Commerce

#### HAND BOOK COMMITTEE

E. T. STRONG, *Chairman*.....Buick Motor Company  
 R. C. RUESCHAW.....Reo Motor Car Company  
 GEORGE A. KISSEL.....Kissel Motor Car Company  
 A. L. CURTIS, *Secretary*.....National Automobile Chamber of Commerce

#### HIGHWAYS COMMITTEE

R. D. CHAPIN, *Chairman*.....Hudson Motor Car Company  
 GEORGE M. GRAHAM.....Pierce-Arrow Motor Car Company  
 W. E. METZGER.....Columbia Motors Company  
 EDWARD S. JORDAN.....Jordan Motor Car Company  
 A. J. BROUSSEAU.....Mack Bros. Motor Car Company  
 PYKE JOHNSON, *Secretary*.....National Automobile Chamber of Commerce

#### INSURANCE COMMITTEE

W. E. METZGER, *Chairman*.....Columbia Motors Company  
 E. T. STRONG.....Buick Motor Company  
 MILTON TIBBETTS.....Packard Motor Car Company  
 F. L. JEWETT.....Paige-Detroit Motor Car Company  
 E. A. WILLIAMS, JR.....Garford Motor Truck Company  
 M. L. PULCHER.....Federal Motor Truck Company  
 E. E. STAUB.....Hudson Motor Car Company

#### LEGISLATIVE COMMITTEE

H. H. RICE, *Chairman*.....General Motors Truck Company  
 D. C. FENNER.....Mack Bros. Motor Car Company  
 F. I. BARROWS.....Lexington Motor Company  
 J. I. FARLEY.....Auburn Automobile Company  
 DAVID S. LUDLUM.....The Autocar Company  
 HARRY MEIXELL, *Secretary*.....National Automobile Chamber of Commerce

#### MEMBERSHIP COMMITTEE

H. M. JEWETT, *Chairman*.....Paige-Detroit Motor Car Company  
 A. J. BROUSSEAU.....Mack Bros. Motor Car Company  
 H. M. JEWETT.....Paige-Detroit Motor Car Company

#### MOTOR FUELS COMMITTEE

JOHN N. WILLYS, *Chairman*.....Willys-Overland Company  
 ALVAN MACAULEY.....Packard Motor Car Company  
 C. W. NASH.....Nash Motors Company  
 E. A. WILLIAMS, JR.....Garford Motor Truck Company  
 S. E. ACKERMAN.....H. H. Franklin Manufacturing Co.  
 S. A. MILES, *Secretary*.....National Automobile Chamber of Commerce

(Continued on following page)

# **Organization of National Automobile Chamber of Commerce, Inc.**

(Continued from preceding page)

## **MOTOR TRUCK COMMITTEE**

WINDSOR T. WHITE, <i>Chairman</i> .....	White Motor Company
GEORGE M. GRAHAM.....	Pierce-Arrow Motor Car Company
VICTOR L. BROWN.....	Sterling Motor Truck Company
M. L. PULCHER.....	Federal Motor Truck Company
R. H. SALMONS.....	Selden Truck Corporation
D. C. FENNER.....	Mack Bros. Motor Car Company
DAVID S. LUDLUM.....	The Autocar Company
A. J. WHIPPLE.....	Republic Motor Truck Company
RAY E. CHAMBERLAIN.....	Packard Motor Car Company
F. W. FENN, <i>Secretary</i> .....	National Automobile Chamber of Commerce

## **PASSENGER CAR SHOW COMMITTEE**

JOHN N. WILLYS, <i>Chairman</i> .....	Willys-Overland Company
H. G. ROOT.....	Westcott Motor Car Company
H. M. JEWETT.....	Paige-Detroit Motor Car Company
S. A. MILES, <i>Manager</i> .....	National Automobile Chamber of Commerce

## **PASSENGER CAR STANDARDS COMMITTEE**

HOWARD C. MARMON, <i>Chairman</i> .....	Nordyke & Marmon Company
N. E. WAHLBERG.....	Nash Motors Company
H. T. THOMAS.....	Reo Motor Car Company
GEORGE B. ALLEN.....	Liberty Motor Car Company
GEORGE E. GODDARD.....	Dodge Brothers

## **PATENTS COMMITTEE**

C. C. HANCH, <i>Chairman</i> .....	H. C. S. Motor Car Company
WINDSOR T. WHITE.....	White Motor Company
WILFRED C. LELAND.....	Lincoln Motor Company
WM. MACGLASHAN.....	Studebaker Corporation
R. A. BRANNIGAN, <i>Department Manager</i> .....	National Automobile Chamber of Commerce

## **RURAL MOTOR EXPRESS COMMITTEE**

JAMES L. GEDDES, <i>Chairman</i> .....	Kelly-Springfield Motor Truck Company
E. A. WILLIAMS, JR.....	Garford Motor Truck Company
O. H. BROWNING.....	International Harvester Company
R. C. RUESCHAW.....	Reo Motor Car Company
GEORGE D. WILCOX.....	Commerce Motor Car Company
F. W. FENN, <i>Secretary</i> .....	National Automobile Chamber of Commerce

## **SERVICE COMMITTEE**

A. B. CUMNER, <i>Chairman</i> .....	The Autocar Company
L. C. VOYLES.....	Nordyke & Marmon Company
F. A. BONHAM.....	Chevrolet Motor Company
F. VAN Z. LANE.....	Locomobile Company

J. B. BRAY.....Grant Motor Car Corporation  
 F. J. WELLS.....Pierce-Arrow Motor Car Company  
 H. R. COBLEIGH, *Secretary*.....National Automobile Chamber of Commerce

#### TAXATION COMMITTEE

C. C. HANCH, *Chairman*.....H. C. S. Motor Car Company  
 H. H. RICE.....General Motors Truck Company  
 J. WALTER DRAKE.....Hupp Motor Car Corporation  
 F. I. BARROWS.....Lexington Motor Company  
 CHARLES CLIFTON.....Pierce-Arrow Motor Car Company  
 PYKE JOHNSON, *Secretary*.....National Automobile Chamber of Commerce

#### TRAFFIC COMMITTEE

W. E. METZGER, *Chairman*.....Columbia Motors Company  
 A. T. WATERFALL.....Dodge Brothers  
 F. C. CHANDLER.....Chandler Motor Car Company  
 WILLIAM L. DAY.....General Motors Truck Company  
 GEORGE M. DICKSON.....National Motor Car and Vehicle Corporation  
 J. S. MARVIN, *Department Manager*.....National Automobile Chamber of Commerce

#### TRUCK STANDARDS COMMITTEE

D. C. FENNER, *Chairman*.....Mack Bros. Motor Car Company  
 FRANCIS W. DAVIS.....Pierce-Arrow Motor Car Company  
 F. A. WHITTEN.....General Motors Truck Company  
 E. M. STERNBERG.....Sterling Motor Truck Company  
 A. MOOREHOUSE.....Packard Motor Car Company

#### NATIONAL COUNCILLORS TO CHAMBER OF COMMERCE OF U. S. A.

CHARLES CLIFTON.....Pierce-Arrow Motor Car Company  
 R. H. JOHNSTON.....The White Company, Washington, D. C.

#### REPRESENTING AUTOMOTIVE INDUSTRY IN CONFERENCE WITH REPRESENTATIVES OF OIL INDUSTRY

JOHN N. WILLEYS, *Chairman*.....Willys-Overland Company  
 ALVAN MACAULEY.....Packard Motor Car Company  
 C. W. NASH.....Nash Motors Company  
 H. L. HORNING.....Representing Motor and Accessory Manufacturers Association  
 C. F. KETTERING.....Representing Society of Automotive Engineers

#### REPRESENTATIVES OF NATIONAL INDUSTRIAL CONFERENCE BOARD

CHARLES CLIFTON.....Pierce-Arrow Motor Car Company  
 A. J. BROSEAU.....Mack Bros. Motor Car Company

#### EDUCATIONAL DEPARTMENT

JOHN C. LONG, *Secretary*.....National Automobile Chamber of Commerce

# Members of National Automobile

## PASSENGER CAR

<i>Trade Name of Car</i>	<i>Members</i>	<i>Address</i>
Allen.....	Allen Motor Company.....	Columbus, Ohio
Anderson.....	Anderson Motor Company.....	Rock Hill, S. C.
Apperson.....	Apperson Bros. Automobile Co.....	Kokomo, Ind.
Auburn.....	Auburn Automobile Company.....	Auburn, Ind.
Brewster.....	Brewster & Company.....	Long Island City, N. Y.
Briscoe.....	Briscoe Motor Corporation.....	Jackson, Mich.
Buick.....	Buick Motor Company.....	Flint, Mich.
Cadillac.....	Cadillac Motor Car Company.....	Detroit, Mich.
Case.....	J. I. Case T. M. Company.....	Racine, Wis.
Chalmers.....	Chalmers Motor Company.....	Detroit, Mich.
Chandler.....	Chandler Motor Car Company.....	Cleveland, Ohio
Chevrolet.....	Chevrolet Motor Company.....	New York, N. Y.
Chrysler-Six.....	The Willys Corporation.....	New York, N. Y.
Cleveland.....	Cleveland Automobile Co.....	Cleveland, Ohio
Cole.....	Cole Motor Car Company.....	Indianapolis, Ind.
Columbia.....	Columbia Motors Company.....	Detroit, Mich.
Commonwealth.....	Commonwealth Motors Co.....	Chicago, Ill.
Crow-Elkhart.....	Crow-Elkhart Motor Company.....	Elkhart, Ind.
Cunningham.....	Jas. Cunningham Son & Company.....	Rochester, N. Y.
Daniels.....	Daniels Motor Company.....	Reading, Pa.
Davis.....	Geo. W. Davis Motor Car Company.....	Richmond, Ind.
Detroit Electric.....	Detroit Electric Car Company.....	Detroit, Mich.
Dixie Flyer.....	Kentucky Wagon Mfg. Co.....	Louisville, Ky.
Dodge Brothers.....	Dodge Brothers.....	Detroit, Mich.
Dorris.....	Dorris Motor Car Company.....	St. Louis, Mo.
Dort.....	Dort Motor Car Company.....	Flint, Mich.
du Pont.....	du Pont Motors, Inc.....	Wilmington, Del.
Elcar.....	Elkhart Carriage & Motor Car Co.....	Elkhart, Ind.
Elgin.....	Elgin Motor Car Company.....	Argo, Ill.
Franklin.....	H. H. Franklin Manufacturing Co.....	Syracuse, N. Y.
Gardner.....	Gardner Motor Company.....	St. Louis, Mo.
Glide.....	The Bartholomew Company.....	Peoria, Ill.
Grant.....	Grant Motor Car Corporation.....	Cleveland, Ohio
Hanson.....	Hanson Motor Company.....	Atlanta, Ga.
Haynes.....	Haynes Automobile Company.....	Kokomo, Ind.
H. C. S.....	H. C. S. Motor Car Company.....	Indianapolis, Ind.
Holmes.....	Holmes Automobile Company.....	Canton, Ohio
Hudson.....	Hudson Motor Car Company.....	Detroit, Mich.
Hupmobile.....	Hupp Motor Car Corporation.....	Detroit, Mich.
Jackson.....	Jackson Motors Corporation.....	Jackson, Mich.
Jordan.....	Jordan Motor Car Company.....	Cleveland, Ohio
Kissel Kar.....	Kissel Motor Car Company.....	Hartford, Wis.
Kline Kar.....	Kline Car Corporation.....	Richmond, Va.

# Chamber of Commerce, Inc.

## MANUFACTURERS

<i>Trade Name of Car</i>	<i>Members</i>	<i>Address</i>
Lafayette.....	Lafayette Motors Company.....	Indianapolis, Ind.
Lexington.....	Lexington Motor Company.....	Connersville, Ind.
Liberty.....	Liberty Motor Car Company.....	Detroit, Mich.
Lincoln.....	Lincoln Motor Company.....	Detroit, Mich.
Locomobile.....	Locomobile Company.....	Bridgeport, Conn.
Lorraine.....	Lorraine Motors Corporation.....	Grand Rapids, Mich.
McFarlan.....	McFarlan Motor Corp.....	Connersville, Ind.
Maibohm.....	Maibohm Motors Company.....	Sandusky, Ohio
Marmon.....	Nordyke & Marmon Company.....	Indianapolis, Ind.
Maxwell.....	Maxwell Motor Company.....	Detroit, Mich.
Mercer.....	Mercer Motors Company.....	Trenton, N. J.
Milburn Electric.....	Milburn Wagon Company.....	Toledo, Ohio
Mitchell.....	Mitchell Motors Company.....	Racine, Wis.
Monroe.....	William Small Company.....	Indianapolis, Ind.
Moon.....	Moon Motor Car Company.....	St. Louis, Mo.
Nash.....	Nash Motors Company.....	Kenosha, Wis.
National.....	National Motor Car & Vehicle Corp.....	Indianapolis, Ind.
Oakland.....	Oakland Motor Car Company.....	Pontiac, Mich.
Oldsmobile.....	Olds Motor Works.....	Lansing, Mich.
Overland.....	Willys-Overland Company.....	Toledo, Ohio
Packard.....	Packard Motor Car Company.....	Detroit, Mich.
Paige.....	Paige-Detroit Motor Car Co.....	Detroit, Mich.
Paterson.....	W. A. Paterson Company.....	Flint, Mich.
Peerless.....	Peerless Motor Car Company.....	Cleveland, Ohio
Piedmont.....	Piedmont Motor Car Company.....	Lynchburg, Va.
Pierce-Arrow.....	Pierce-Arrow Motor Car Co.....	Buffalo, N. Y.
Pilot.....	Pilot Motor Car Company.....	Richmond, Ind.
Premier.....	Premier Motor Corporation.....	Indianapolis, Ind.
Rauch & Lang.....	Rauch & Lang, Inc.....	Chicopee Falls, Mass.
Reo.....	Reo Motor Car Company.....	Lansing, Mich.
Roamer.....	Barley Motor Car Company.....	Kalamazoo, Mich.
R. & V. Knight.....	Root & Vandervoort Eng. Co.....	E. Moline, Ill.
Saxon.....	Saxon Motor Car Corporation.....	Detroit, Mich.
Sayers.....	Sayers & Scovill Company.....	Cincinnati, Ohio
Scripps-Booth.....	Scripps-Booth Corporation.....	Detroit, Mich.
Standard.....	Standard Steel Car Company.....	Pittsburgh, Pa.
Stearns-Knight.....	F. B. Stearns Company.....	Cleveland, Ohio
Stephens Six.....	Moline Plow Co., Stephens Motor Branch.....	Moline, Ill.
Stevens-Duryea.....	Stevens-Duryea, Inc.....	Chicopee Falls, Mass.
Studebaker.....	Studebaker Corporation.....	South Bend, Ind.
Stutz.....	Stutz Motor Car Company of America.....	Indianapolis, Ind.

(Continued on following page)



## Members of National Automobile Chamber of Commerce, Inc.

(Continued from preceding page)

### PASSENGER CAR MANUFACTURERS (Continued)

Templar.....	Templar Motors Company.....	Cleveland, Ohio
Velie.....	Velie Motors Corporation.....	Moline, Ill.
Westcott.....	Westcott Motor Car Company.....	Springfield, Ohio
Willys-Knight.....	Willys-Overland Company.....	Toledo, Ohio
Winton.....	The Winton Company.....	Cleveland, Ohio
Willys.....	The Willys Corporation.....	New York, N. Y.

### MOTOR TRUCK MANUFACTURERS

<i>Trade Name of Truck</i>	<i>Members</i>	<i>Address</i>
Acme.....	Acme Motor Truck Co.....	Cadillac, Mich.
Am. La France.....	American La France Fire Engine Co.....	Elmira, N. Y.
Atterbury.....	Atterbury Motor Car Company.....	Buffalo, N. Y.
Autocar.....	Autocar Company.....	Ardmore, Pa.
Avery.....	The Bartholomew Company.....	Peoria, Ill.
Bethlehem.....	Bethlehem Motors Corp.....	Allentown, Pa.
Briscoe.....	Briscoe Motor Corp.....	Jackson, Mich.
Brockway.....	Brockway Motor Truck Company.....	Cortland, N. Y.
Buick.....	Buick Motor Company.....	Flint, Mich.
Chevrolet.....	Chevrolet Motor Company.....	New York, N. Y.
Clydesdale.....	Clydesdale Motor Truck Company.....	Clyde, Ohio
Commerce.....	Commerce Motor Car Company.....	Detroit, Mich.
Corbitt.....	Corbitt Motor Truck Company.....	Henderson, N. C.
Cunningham.....	Jas. Cunningham Son & Co.....	Rochester, N. Y.
Denby.....	Denby Motor Truck Company.....	Detroit, Mich.
Diamond T.....	Diamond T Motor Car Co.....	Chicago, Ill.
Dodge Brothers.....	Dodge Brothers.....	Detroit, Mich.
Dorris.....	Dorris Motor Car Co.....	St. Louis, Mo.
Duplex.....	Duplex Truck Company.....	Lansing, Mich.
Federal.....	Federal Motor Truck Company.....	Detroit, Mich.
Garford.....	Garford Motor Truck Company.....	Lima, Ohio
G. M. C.....	General Motors Truck Company.....	Pontiac, Mich.
Graham.....	Graham Brothers.....	Evansville, Ind.
International.....	International Harvester Co.....	Chicago, Ill.
Jackson.....	Jackson Motors Corp.....	Jackson, Mich.
Kelly-Springfield.....	Kelly-Springfield Motor Truck Co.....	Springfield, Ohio
Kissel.....	Kissel Motor Car Company.....	Hartford, Wis.
Kleiber.....	Kleiber & Company.....	San Francisco, Cal.
Maccar.....	Maccar Truck Company.....	Scranton, Pa.
Mack.....	Mack Brothers Motor Car Co.....	New York, N. Y.



<i>Trade Name of Truck</i>	<i>Members</i>	<i>Address</i>
Maxwell.....	Maxwell Motor Company.....	Detroit, Mich.
Milburn Electric.....	Milburn Wagon Company.....	Toledo, Ohio
Moreland.....	Moreland Motor Truck Company.....	Los Angeles, Cal.
Nash.....	Nash Motors Company.....	Kenosha, Wis.
Old Hickory.....	Kentucky Wagon Mfg. Co.....	Louisville, Ky.
Oldsmobile.....	Olds Motor Works.....	Lansing, Mich.
Oneida.....	Oneida Motor Truck Company.....	Green Bay, Wis.
Overland.....	Willys-Overland Company.....	Toledo, Ohio
Packard.....	Packard Motor Car Company.....	Detroit, Mich.
Paige.....	Paige-Detroit Motor Car Company.....	Detroit, Mich.
Pierce-Arrow.....	Pierce-Arrow Motor Car Co.....	Buffalo, N. Y.
Rainier.....	Rainier Motor Corporation.....	Flushing, N. Y.
Reo.....	Reo Motor Car Company.....	Lansing, Mich.
Republic.....	Republic Motor Truck Company.....	Alma, Mich.
Riker.....	Locomobile Company.....	Bridgeport, Conn.
Rowe.....	Rowe Motor Manufacturing Co.....	Lancaster, Pa.
Sanford.....	Sanford Motor Truck Co.....	Syracuse, N. Y.
Sayers.....	Sayers & Scoville Co.....	Cincinnati, Ohio
Schacht.....	G. A. Schacht Motor Truck Co.....	Cincinnati, Ohio
Selden.....	Selden Truck Corporation.....	Rochester, N. Y.
Service.....	Service Motor Truck Company.....	Wabash, Ind.
Standard.....	Standard Motor Truck Company.....	Detroit, Mich.
Sterling.....	Sterling Motor Truck Company.....	Milwaukee, Wis.
Stewart.....	Stewart Motor Corporation.....	Buffalo, N. Y.
Studebaker.....	Studebaker Corporation.....	South Bend, Ind.
Traylor.....	Traylor Eng. and Mfg. Co.....	Cornwells, Pa.
United.....	United Motors Company.....	Grand Rapids, Mich.
Vellie.....	Vellie Motors Corporation.....	Moline, Ill.
Vim.....	Vim Motor Truck Company.....	Philadelphia, Pa.
Walter.....	Walter Motor Truck Company.....	New York, N. Y.
Ward.....	Ward Motor Vehicle Co.....	Mt. Vernon, N. Y.
White.....	White Motor Company.....	Cleveland, Ohio
Wilson.....	J. C. Wilson Company.....	Detroit, Mich.

---

**GENERAL MOTORS CORPORATION, Detroit, Mich., controls:**

Buick Motor Company	Olds Motor Works
Cadillac Motor Car Company	Oakland Motor Car Company
Chevrolet Motor Company	Scripps-Booth Corporation
General Motors Truck Company	Sheridan Motor Car Company

**HARE'S MOTORS, New York, N. Y., controls:**

Kelly-Springfield Motor Truck Company	Mercer Motors Company
Locomobile Company	Simplex Automobile Company

**INTERNATIONAL MOTOR COMPANY, New York, N. Y., controls:**

Mack Bros. Motor Car Company

# Index

Automobile business, main facts of.....	2, 3, 4, 5, 6, 7	Employees in motor vehicle, parts and accessories manufacture.....	7
Automobile, comments on, President Harding.....	cover, 10	Engines, value of exported from U. S.	63
W. C. Bresler.....	35	Exports, automobile, general information.....	51
Senator Arthur Capper.....	11	Exports, automobile.....	51-64
Commissioner P. P. Claxton.....	36	Exports, automobile, from U. S. 1920.....	52, 53
A. Barton Hepburn.....	11	Export automobiles 1911-1920.....	63
George E. Roberts.....	15	Exports, automobile, from major countries.....	64
Francis H. Sisson.....	11	Exports, automobile to non-contiguous territories.....	62
E. C. Stokes.....	11	Exports of automobile engines from U. S.....	63
Automobile exports from U. S.....	51-64	Exports of automobile parts from U. S.....	62
Automobile imports.....	64	Exports of automobile tires from U. S.....	62
Automobile industry, census of.....	7	Exports, leading customers of.....	63
Automobile production.....	3-7	Exports, motor truck, from U. S. 51, 52, 53, 56, 57, 60, 61, 63	63
Automobile registrations of the world.....	40-42	Exports, passenger car, from U. S. 51, 52, 53, 54, 55, 58, 59, 63	63
Automobile registration in U. S.....	34-45	Express and heavy haulage service..	25
Automobile trade by classes and states	33	Factories, car and truck, number in U. S.....	9
Automobiles to population.....	43	Farmer-owned passenger cars in U. S.....	17
Automobile, uses of... 14, 21, 23, 24, 29	29	Farmers say cars increase productivity 68%.....	14, 15
Automotive associations.....	82	Farmer use of cars, statistics of...	15
Automotive schools in U. S. A.....	84	Farms, how trucks reduce labor costs on.....	24
Banker use of passenger cars.....	15	Farms, truck operating costs on, North Atlantic States.....	26
Body styles defined.....	80, 81	Farms, trucks on, per 100 acres...	24
Business, size of motor vehicle 2, 3, 4, 5, 6, 7	7	Fifty-five per cent of Pennsylvania farmers own cars.....	17
Business, statistics of automobile dealers.....	33	Fees, state regulations concerning..	70-79
Capacity analysis of truck production in U. S.....	8	Fuel, statistics of.....	12, 13
Capital invested in automobile industry.....	3, 4, 5, 7	Garages in U. S.....	33
Capital invested in passenger car manufacture.....	4	Gasoline, statistics of.....	12, 13
Capital invested in motor truck manufacture.....	5	Harding, President, comment on the automobile.....	10
Capital invested in motor vehicles, parts and accessories business....	7		
Car (see passenger car)			
Charging stations in U. S.....	33		
Cincinnati use of motor trucks.....	28		
Clergymen's use of passenger cars..	15		
Dealers, car and truck in U. S.....	33		
Doctor use of passenger cars.....	22		
Employees in car and truck manufacture.....	3		

## Index (Continued)

Haulage costs saved by store door delivery.....	28, 29	Legislation, progress of, in 1920....	65
Haulage companies.....	25	License revenues in U. S. 34, 37, 39, 70-79	
Highways, statistics of.....	46	Main Street gains from the automobile business.....	14
Horses, cost compared with motor trucks.....	24	Manufacturers, car and truck, distribution by States.....	8
<b>ILLUSTRATIONS—</b>		Membership of N. A. C. C.....	90-93
2¼ Billion Dollar Sales in 1920..	2	Motor bus lines in cities.....	25
1920 Production Shows 12% Gain..	6	Motor bus use in rural schools.....	21
Truck Production by Capacities..	8	Motorized express companies in U. S.	25
Enough Oil for 144 Years.....	12	Motor truck, chief statistics of....	5
Owners Say Cars Increase Efficiency	14	Motor truck dealers.....	33
Automobiles Aid All Occupations..	15	Motor truck, door-to-door delivery use of.....	29
Where Cars Are.....	16	Motor truck, city use of.....	20
State Owned Cars Promote Welfare	18	Motor truck, costs compared with horses.....	24
154,700 Cars and Trucks Connect N. Y. with Mainland.....	19	Motor truck, costs compared with railroads.....	27
10,000 Cars Aid Municipalities....	20	Motor truck exports.....	50, 52, 53, 56, 57, 60, 61
12,000 Schools Use Motor Buses....	21	Motor truck, farm cost of.....	24, 26
Automobiles Now Twice as Safe....	23	Motor truck farm costs in North Atlantic States.....	24
Trucks per 100 Acre Farms.....	24	Motor truck, National Cost System for.....	30, 31
% of Farm Products Hauled by Truck.....	26	Motor truck production.....	5, 6, 7, 8
Motor Truck Lines at Cincinnati Terminals.....	28	Motor truck production by capacities	8
Chart from National Truck Cost System.....	30	Motor truck registration..	3, 5, 34-37, 38
World Registration Maps.....	31	Motor truck standards of N. A. C. C.	32
Population per Automobile.....	43	Motor truck, state use of.....	18
1920 Gains in Registration.....	44	Motor truck replacing short line railroads.....	27
Automobile Large Contributor to National Budget.....	50	N. A. C. C. truck standards.....	32
Rate of Increase in Exports.....	51	National Automobile Chamber of Commerce:	
British Empire Buys Bulk of U. S. Exports.....	63	Objects of.....	82
Motor Vehicles Lead in Export of Finished Products.....	64	Organization of.....	86-89
Definition of Car Body Styles.....	80, 81	Membership of.....	90-93
Imports of automobiles.....	63	National truck cost system.....	30, 31
Laws, state, regulating size and weight restrictions.....	66-69	New York City, car and truck traffic.	19
Laws, state, regulating annual fees, registrations and licenses.....	70-79	Occupational use of motor trucks	18, 19, 20, 21, 24-29
Laws, proposed uniform, on size and weight restrictions.....	69	Occupational use of passenger cars.	10-20
Laws, proposed uniform, on fees, registrations, and licenses.....	89	Organization of N. A. C. C.....	86-89
		Owners say cars increase efficiency 57%.....	14
		Passenger car, banker use of.....	15
		Passenger car, chief statistics.....	4

## Index (Continued)

Passenger car, city use of.....	19, 20	Registration, state percentage of gains in.....	44-45
Passenger car, clergyman use of.....	15	Registration, states rated by gross..	42
Passenger car comments on.....	10, 11, 15, 36, 37	Registration, world.....	40-42
Passenger car, contractor use of.....	15	Repair shops in U. S.....	33
Passenger car, doctor use of.....	22	Revenues from registrations 1920....	34-37
Passenger car exports.....	51-64	Revenues from registrations 1915-1920	39
Passenger car, farmer use of.....	15, 16, 17	Roads, statistics of.....	46
Passenger car, manufacturer use of..	15	Rubber production.....	13
Passenger car, production.....	4, 6, 7	Rural school use of motor buses....	21
Passenger car, real estate and in- surance use of.....	15	Rural welfare work use of cars.....	22
Passenger car registration.....	34-38	Salesman's use of passenger cars....	15
Passenger car, post-office use of....	22	Schools, automotive in U. S. A....	84
Passenger car, rural welfare work use of.....	22	Safety, automobile gains in.....	22-23
Passenger car, salesman use of.....	15	Service stations in U. S.....	33
Passenger car, school supervisor use of.....	15	Shipments, automobile, car load from factories.....	9
Passenger car, state use of.....	18	Size and weight restrictions, state laws governing.....	66-69
Passenger car, telephone company use of.....	20	State fees, licenses and registrations.	70-79
Passenger car, utility of.....	15-23	State government use of cars and trucks.....	18
Post-office use of passenger cars....	22	State numerical and per cent gains in registration.....	44-45
President Harding, comment on the automobile.....	10	State size and weight restrictions..	66-69
Production of automobiles..	3, 4, 5, 6, 7, 8	States rated by gross registration...	42
Population, ratio of automobiles to..	43	Supply houses, automobile in U. S....	33
Production, gasoline.....	13	Taxation, by states, on automobiles..	70-79
Production of motor trucks..	3, 5, 6, 7, 8	Taxes paid by automobile industry..	48-50
Production of passenger cars..	3, 4, 6, 7	Taxes, reasons why no more should be paid by automobile industry..	49, 50
Production, oil.....	13	Trade, automobile, by classes and states.....	33
Production, rubber.....	13	Territories, non-contiguous, exports of automobiles to.....	62
Production, steel.....	13	Tire exports.....	62
Rate of gain in production.....	6	Tire output.....	3
Rate of increase in exports.....	51	Store-door delivery saving in costs..	29
Ratio of automobiles to population..	43	Truck (see motor truck)	
Racing records.....	47	Uniform motor vehicle law pro- visions of.....	65, 69, 79
Railroad freight car load shipments from automobile factories.....	9	Utility, car and truck.....	14-29
Railroads use of motor trucks.....	27	Wages and salaries in car and truck manufacture.....	3
Records, racing.....	47	Wages and salaries in manufacture of motor vehicles, parts and accessories.....	7
Registration of cars and trucks, 1920	34-37	World registration.....	40-42
Registration of cars and trucks, 1915-1920.....	38		
Registration, laws governing.....	70-79		
Registration, state numerical gains in.....	44-45		

